

# Psychological Abstracts

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# PSYCHOLOGICAL ABSTRACTS

VOLUME II, No. 8

AUGUST, 1928

## GENERAL

2069. Aves, O. **Exhibit of the "Deviograph."** *Trans. Opt. Soc.*, 1927-1928, 29, 43-45.—This paper describes an instrument the purpose of which is to provide a quick and accurate method of obtaining a graphic record of muscular imbalance. The charts obtained indicate quantitatively and qualitatively the deviations in eight para-central positions of the binocular field. A study of the charts shows that perfect orthophoria is comparatively rare, and that regular lateral deviations are the most common. Many subjects, however, have irregular anomalies, one of the most frequent being that the exophoria decreases as the eyes are moved from an upper to a lower position.—*L. L. Sloan* (Bryn Mawr).

2070. Buchanan, S. **Possibility.** New York: Harcourt, Brace, 1927. Pp. 198. \$3.50.—This book is a survey of the methodology of rational thought. It is a companion volume to M. J. Adler's *Dialectic*. It starts with Kant's notion of the possible as what agrees in intuitions and concepts with the formal conditions of experience. What is given in immediate experience is an individual whole with no variables. Possibility is the regulative idea for the analysis of wholes into parts. This analysis gives us variable wholes which are equivalent to the individual wholes. Hypostatization is the treatment of variable wholes as individual wholes, as may be seen in discussions about mind and body, instincts, and Freudian psychology. We use variable wholes in order to measure individual wholes. These variable wholes, or "parameters," involve three factors: common properties or identity conditions, classes of particulars, rules of order. There is no absolute possibility or highest parameter, and no lowest parameter. Actuality is an individual whole. For each actuality there are different variable wholes, parametric systems, or alternative modes of possible analysis. A lengthy criticism is given to the dynamic ethics of self-realization. The book ends with a program of research.—*A. P. Brogan* (Texas).

2071. Cords, R. **Über Hebelnystagmographie.** (On lever-nystagmography.) *Graefes Arch. f. Ophth.*, 1927, 118, 771-784.—A discussion of the physical principles and sources of error of various mechanical devices for registering eye-movements. High precision is to be obtained only by optical methods, but these require more complicated apparatus.—*D. McL. Purdy* (California).

2072. Courbon, P. **Centenaire de la mort de Pinel et la naissance de Vulpian.** (Centenary of the death of Pinel and of the birth of Vulpian.) *Ann. méd.-psychol.*, 1927, 85, II, 5-22.—A detailed description of the celebration at the Salpêtrière in memory of Pinel and Vulpian. Other meetings of the centenary took place at the Sorbonne, Sainte-Ann, the Academy of Medicine, the Palace of Orsay and at L'Hotel de Ville. The chief speakers are named and a picture of Pinel is included in the article.—*O. W. Richards* (Clark).

2073. Dobson, G. M. B., & Griffith, I. O. *Proc. Phys. Soc. Lond.*, 1927, 39, 223-226.—A spectrophotographic method of determining the spectral absorption curves of light filters. The apparatus consists essentially of an ordinary spectrograph with its accessories, and a neutral wedge whose density-gradient is known. The wedge is placed over the slit of the spectroscope in such a way that the intensity of light of any wave-length in the spectrum varies from the upper to the lower part of the spectrum. The filter whose absorption characteristics are to be determined is also placed over the slit, but in such a way as to cover only part of its length. The resulting spectrogram therefore consists of two parts, an upper

section in which the light has suffered absorption by both the wedge and the filter, and a lower section in which the wedge alone has been operative. Since the density of the wedge varies regularly from top to bottom, it is possible to find in the upper part of the spectrogram a point which is equal in density to a point in the lower part of the spectrogram. From the distance between two such points and the density-gradient of the wedge, the absorption coefficient of the filter for the wave-length in question can be computed.—*L. L. Sloan* (Bryn Mawr).

2074. **Griffith, P.** *A synthetic psychology, or evolution as a psychological phenomenon.* London: Bale, 1927. Pp. xii + 214. 7/6.—This book attempts a philosophy of mind. The author, "expert in water engineering," believes that professional psychologists have not taken into account many of the most important and most central facts of human life, such as ideals, ethical aspects found in child behavior, the altruistic trend in human evolution, etc.; and he presents in this volume his own more comprehensive, more synthetic psychological point of view. "Nature," embodiment of objective mind or knowledge as well as of matter, is the first teacher of the human being, building into him through physiological and then psychological experience, a personal mind. To this mind is added "character" or "personality," body, mind, and character being conceived, however, not as separable but as forming a concrete, interrelated whole. Evolution in man is the history of the progressive socialization (benevolence, altruism) of the individual so conceived.—*F. E. Morris* (Connecticut College).

2075. **Häberlin, P. [Ed.].** *Beiträge zur speziellen Psychologie.* (Contributions to special psychology.) Basel: Koberische Verlh., 1927.—*W. S. Hunter* (Clark).

2076. **Herrick, C. J.** *Fatalism or freedom: a biologist's answer.* New York: Norton, 1926. Pp. 96. \$1.00.—The problem (Chapter I) discussed is whether freedom is an illusion, or a real factor in human behavior. Are we driven by fates, or do we control our destiny by our own intelligent selection? Biological control (Chapter II) of behavior among living things is due in part to hereditary organization, in part to present surrounding influences, and in part to the internal organization that has been shaped by previous experiences in the personal biography. Human control (Chapter III) of conduct is largely through mental power, through the most characteristic functions of the cerebral cortex; namely, thinking and other acts of our conscious life. Among the most important controlling agents in human conduct are conscious acts. Of all of our conscious acts those which enable us to forecast the future and to shape our present conduct in view of future contingencies, and of our desires for personal and social satisfactions, depend on freedom of choice. In human conduct there is a natural freedom (Chapter IV) of choice that is real freedom (Chapter VI). This natural freedom operates, as it does everywhere, within the limits of natural laws. Such freedom, though limited, is real and not mystical; for example, a locomotive running on a track. Such freedom, however, without control is chaos; for example, a locomotive running off the track. For practical purposes human freedom (Chapter V) is a powerful aid to decision. In extreme cases people who cannot make decisions are committed to mental hospitals because of a pathological breakdown of the natural freedom of choice.—*S. C. Roth* (Boston Psychopathic Hospital).

2077. **Hirsch, G. C. [Ed.].** *Index biologorum (investigatores, laboratoria, periodica).* Berlin: Springer, 1927. Pp. vi + 545. Rm. 27.—*R. R. Willoughby* (Clark).

2078. **Hunter, W. S., & Willoughby, R. R. [Eds.].** *Psychological index (No. 34).* Princeton: Psychological Review Co., 1928. Pp. 408. \$2.00.—Bibliography of psychological literature for 1927; 5798 titles, an increase of 5% over No. 33. The Russian literature is again represented, this time by 512 titles.



Titles represented in *Psychological Abstracts* (through II: 5) are indicated by the volume number 1 or 2. A few new journals are represented, but no list is included. The percentage distributions of the titles among the main sections for Nos. 32-34 are as follows:

Sect.*	I	II	III	IV	V	VI	VII	VIII	IX	X	XI
32	10	4	11	2	9	2	17	7	17	17	4
33	10	4	9	1	9	2	18	8	14	21	4
34	10	5	8½	1	8	3	16	9½	16	19	4

\*I = general; II = nervous system; III = sensation and perception; IV = feeling and emotion; V = motor phenomena; VI = attention, memory and thought; VII = social phenomena; VIII = special mental conditions; IX = nervous and mental disorders; X = mental development in man; XI = plant and animal behavior.—*R. R. Willoughby* (Clark).

2079. **Joliet, R.** *Chronicle: le mouvement philosophique en France en 1926-1927.* (The philosophic tendency in France during 1926-1927.) *New Scholast.*, 1928, 2, 138-161.—The revival of scholastic philosophy, especially that of Thomas Aquinas, is being met with increasing favor. A Bergsonian influence is being felt in the rather prevalent opinion that science is superficial and general and that it is through metaphysics that a knowledge of the particular and fundamental must be derived. Less has been accomplished in experimental psychology than in former years. Even among Freud's disciples there is only a partial adherence to his principles. In a word, the philosophic movement is tending toward idealism and critical materialism.—*J. P. Hylan* (Stoneham, Mass.).

2080. **Jones, L. McK.** *Empiricism and intuitionism in Reid's common sense philosophy.* Princeton: Princeton Univ. Press, 1927. Pp. 145. \$2.00.—*W. S. Hunter* (Clark).

2081. **Mallett, E.** *Acoustical experiments with a mechanical vibrator.* *Proc. Phys. Soc. Lond.*, 1927, 39, 251-264.—This paper describes preliminary experiments with a mechanical device for obtaining a standard source of pure tone. The apparatus gives known amplitudes of vibration of variable frequency to a piston operating at the end of a pipe. The amplitude of vibration of the piston is constant for a given setting of the instrument, but the amplitude of the resulting sound wave varies with the frequency and is greatest when the number of cycles per second corresponds to the resonance frequency of the pipe. On the assumption that no energy is lost in the tube, it is possible to calculate the sound energy radiated per second. The author hopes with further work to be able to determine the actual loss in energy in the tube. He also plans to modify the apparatus so that it may be used satisfactorily at frequencies greater than 500 cycles. This cannot be done with the present instrument.—*L. L. Sloan* (Bryn Mawr).

2082. **Mottram, V. H.** *Physiology.* New York: Norton, 1928. Pp. 279. \$3.00.—This book contains a very elementary and non-technical presentation of certain of the main aspects of human physiology. The introduction illustrates the scope of the book by comparisons of bodily function with that of machines and political organizations. The second chapter indicates the importance of the nervous system in the integration of the behavior of the individual and how this may be accomplished by simple reflexes. Conditioned reflexes are not included. The structure and functions of the main parts of the brain are given in some detail. A chapter on sensation includes a discussion of psychological, sensory experience, an enumeration of the senses and their localization in the cortex. The effector apparatus includes the three kinds of muscular tissue and the glands. Only the mechanics of muscular activity are included. The changes in tension are mentioned without reference to their cause. The chapter on food and building material includes the use of the chief foods in the body and the relative energy

values of the chief food materials. The energy needs of the body, especially those of children, are indicated. The sixth chapter tells how food is broken down into simpler substances by digestion and how these are taken from the digestive tract into the body. The nature of the blood, its importance to the body, and the mechanism of its circulation are clearly described. Respiration is introduced by means of a brief sketch of the history of the investigations of respiration and then the nature and importance of respiration and pulmonary ventilation are discussed. The main body wastes are mentioned in connection with their origin in the body and their elimination. The author indicates the danger to civilization of too complete cleansing of the body in the bath tub. A chapter on the chemical coördination of the body by means of the products of the glands of internal secretion and one on a brief description of reproduction complete the book. The epilogue emphasizes the very elementary nature of the discussions, the incompleteness of the text, and the fact that it is intended to be only an introduction to the subject. Each chapter has a good summary and a short selected bibliography. Technical terms are defined in numerous footnotes and 55 simplified diagrams illustrate the context.—*O. W. Richards* (Clark).

2083. **Nicholson, J. A.** *Some aspects of the philosophy of L. T. Hobhouse.* *Univ. Ill. Stud. Soc. Sci.*, 1926, 14, No. 4. Pp. 86.—Hobhouse is presented as the outstanding critic of idealism, who, after rejecting as false the idealistic theory of knowledge, reconstructs a new theory based upon an analysis of cognition. "The function of thought as a correlating activity is to discover what is already real, and the only thing it constructs is its own system which it means to correspond to the real order." Human action, according to Hobhouse, is governed by impulse and reason, both being "equally essential to developed purpose." Reason is a product of mental evolution. Instrumental from the outset, reason is now "subordinate to the discovery of truth." Behavior becomes purposive with the emergence of ideas. The evolution of social behavior is directed towards the "control and regulation of impulse." "Practical reason seeks an harmonious correlation of impulses and the elimination of conflicts within society to the end that the full possibilities of attainment may be possible to each member of the human community." Essential in the philosophy of Hobhouse is the evolutionary point of view together with an insistence upon the rational and purposeful nature of human behavior.—*N. L. Munn* (Clark).

2084. **Petzelt, A.** *Vom Problem des Verstehens.* (On the problem of comprehension.) *Jahrb. d. Charakterol.*, 1927, 4, 63-96.—The author identifies the problem of comprehension with that of psychology in general, and works upon it in accordance with Honigswald's theory. In this way he hopes to overcome psychologism and also to explain the relation of the mental to value. Instead of the disjunction object-subject, with which the problem of comprehension and understanding (*Verständigung*) cannot be solved, he posits the relation object-experience. In the concept of understanding there is a situation which is independent of each subject, but there is the community of those who understand each other. This situation claims value, that is, it claims to be understood by all. Therein lies no psychologism: the object is independent of the accidental thought-act of the individual. But this independence of the object signifies nothing other than the requirement that every man could possibly think it; and if it is actually thought by each man, this signifies simultaneously the claim of being possibly thought by all. Thus experience appears as a principle of objective valence. Understanding is demanded in the idea of objectivity. It fulfils the requirement that an object must be able to be fundamentally the same for all men, assuming that something identical with itself raises a claim to existence. In the concept of understanding there comes to expression that relation which connects the function of the truth with the knowledge concerning the true.—*A. Kronfeld* (Berlin).

2085. Rignano, E. *La teoria della forma della nuova scuola psicologica tedesca contrapposta all'associazionismo della scuola psicologica inglese. Parte I: La "Gestalt" in quanto ordine di elementi sensoriali.* (The theory of form of the new German school of psychology, opposed to the associationism of the English school of psychology. Part I: The "Gestalt" as the order of sensorial elements.) *Scientia*, 1927, 42, 145-158.—After defining the Gestaltists' "order" and "derived nerve currents of association," the author shows that in their arguments against the qualitative autonomy of the sensorial elements, the Gestaltists fail to consider the mnemonic factor in perception; that in arguing for the existence of abstract form, they misinterpret their examples; that the sensorial elements themselves are not functions of form; that unanimity proves the objective character of perception, while it is appreciation which remains subjective; and, finally, that the Gestaltists have not been successful in reversing the theory of the English Associationists concerning the relationship between the part and the whole. He criticises the Gestaltists for their unscientific confusion of terminology, and commends their attempt to find a physiological substratum for "form" or "order."—*R. G. Sherwood* (Stillwater, Minn.).

2086. Rignano, E. *La teoria della forma della nuova scuola psicologica tedesca contrapposta all'associazionismo della scuola psicologica inglese. Parte II: La "Gestalt" in quanto unificazione di elementi sensoriali e in quanto significato d'un oggetto.* (The theory of form of the new German school of psychology, opposed to the associationism of the English school of psychology. Part II: The "Gestalt" as the integration of sensorial elements, and as the meaning of an object.) *Scientia*, 1927, 42, 215-228.—One psychic factor, the "Gestalt," cannot produce both the "order" of sensorial elements and their division into distinct groups or units, since these are two fundamentally different processes. Instead, the author attributes to the utilitarian affective reaction the function of integration, and leaves "order" to be determined by the derived nerve currents. The author denounces the Gestaltists for confusing the origin of "form" and that of meaning. He believes meaning to be a function of the affective processes and supports his view by several arguments.—*R. G. Sherwood* (Stillwater, Minn.).

2087. Salvà, V. *Gènesi de les diversitats psicològiques.* (The origin of psychological diversities.) *Criterion*, 1927, 3, 459-463.—*R. R. Willoughby* (Clark).

2088. Schütz, A. *A böloselet elemei szent Tamás alapján.* (The elements of philosophy, based on the philosophy of St. Thomas Aquinas.) Budapest: Stephaneum, 1927. Pp. 283.—The author seeks to harmonize the facts of logic and the results of modern investigations in psychology, characterology and the natural sciences with the scholastic dogmatics of Thomas Aquinas. He says that the Thomistic psychology is a pure intellectualism; feeling has no place in this philosophy, and will (free will) is nothing but freedom of decision. The author distinguishes sharply between consciousness, ego and soul. The last is a "not entirely spiritual thing-in-itself" (*substantia incompleta spiritualis*), its relation to the body is that of form to matter, and with the body it constitutes a single principle of the human activities. First Book: Logic. I. Forms of thought. II. Epistemological critique. III. Methodology. Second Book: Metaphysics. IV. General and special metaphysics. 1. Cosmology. 2. Anthropology. 3. Ethics. 4. Aesthetics. 5. Political science. 6. Theology. Alphabetical subject index.—*A. Juhász* (Budapest).

2089. Starcke, C. N. *Fornemmelse og forestilling. Bidrag til en undersøgelse af forholdet mellem det psykiske og det fysiologiske.* (Sensation and imagery. A contribution to an investigation of the relation between the mental and the physiological.) *Ark. f. psykol. o. ped.*, 1927, 6, 105-177.—In the first section, entitled *Psyche and Life*, the writer, in a penetrating discussion, critically

covers a wide field, the scope of which might be inferred from the various points of view of the following: Hegel, Fichte, Fechner, Hobbes, Descartes, Leibniz, du Bois-Reymond, J. Loeb, Arrhenius, W. Stern, Morgan, Haldane, Mach, A. Stöhr, Wiesner, J. Bohn, Bleuler, R. Semon, Hering, L. Edinger, Bekhterev, and others. Starcke tries to get around McDougall's statement that there are only two possible solutions of the problem of "psyche and life," one a materialistic denial of the existence of the "soul," the other an animistic belief in it, by offering as an illusion the current belief that there exists a wide gap between body and mind as individual realities; a belief which prevents all possibilities for seeing our mental activities in harmonic relations to the entire cosmic reality. Not through spiritual seances, but from the general characteristics of the mind, its ability to create new highways and ever more comprehensive syntheses, we shall find the proper place of "mind" in its relation to the synthetic power which envelops all existence. The individual "soul," or ego, is an integral part of and indivisible from this general cosmic synthesis. In the following sections: *Sensations, Qualities of Sensations and the Outer World, Imagery, the World of Ideals*, a psychologically up-to-date analysis leads the author to reject the atomistic view and carries him to the epistemological conclusions that the insistence upon a "synthesis of all things" is a *sine qua non* for life and its full development—and that if we should find such a synthesis to be an illusion, then there is no substitute which will enable full development and "saturation" of the individual ego. The article was written by Dr. Starcke, Professor of Philosophy at the University of Copenhagen, just prior to his death last spring and was later sent to the journal by his son. Footnote references.—*M. L. Reymert* (Wittenberg).

2090. **Stout, G. F., & Thouless, R. H.** *The groundwork of psychology*. (2d Ed.) London: Clive, 1927. Pp. x + 227. 5/6.—The second edition of this well-known text-book contains additions by Thouless dealing with attention, instinct, the correlation of physical injury with psychical disorder, and external perception, including space perception. All these additions show a strong influence from recent experimental work, and footnote references are given to original authorities wherever necessary.—*F. C. Bartlett* (Cambridge, England).

2091. **Walsh, J. W. T., & Barnett, W.** *The effect of slightly selective absorption in the paint used for photometric integrators*. *Trans. Opt. Soc.*, 1926-1927, 28, 21-36.—Author's abstract. A sensibly non-selective internal coating for photometric integrators is very difficult to produce and still more difficult to maintain. It is clear that when lamps of different color temperature are compared in an integrator with an internal coating which shows selective absorption in, say, the blue, the values of candle-power obtained for the lamps of lower color temperature will be too high and vice versa. The existence of this effect has long been known, but its magnitude has not hitherto been determined to any degree of accuracy. The paper describes a theoretical treatment of the problem and gives a simple method for calculating the magnitude of the effect in the case of sources having a spectrum approximating to that of a black body. The method has been tested by actual photometric measurement and a satisfactory agreement between theory and practice has been found. It is shown that in work on normal type electric lamps to an accuracy of 1 to 2% a quite noticeable coloration of the light may be produced by the sphere (either on account of paint or window selectivity or both) without the necessity for making any correction to the measured values of candle-power.—*L. L. Sloan* (Bryn Mawr).

2092. **Wirth, W.** *Das Wesen der psychophysischen Gesetzmässigkeit*. (The nature of psychophysical uniformity.) *Arch. f. d. ges. Psychol.*, 1927, 60, 205-233.—The author controverts the assumption, made in its most extreme form by Avenarius and Münsterberg, that consciousness is a causally ineffective accompaniment of material phenomena. Such an assumption could be proved only



according to the principle of "negative instances": by demonstrating that the same brain-process can take place in the absence of the appropriate consciousness. Such a situation appears to be just as foreign to the whole nature of the psychophysical nexus as the existence of a consciousness in the absence of a brain. The author argues against the proposal, first made by Münsterberg, later by Dilthey, to divide the science of psychology into two self-inclosed departments, an "explanatory" and an "intuitive"; this idea originates in a too narrow conception of psychophysical causality. It has been argued, e.g., by Kronfeld, that it is the proper task of psychology to deal with individuality. But the case is much the same as in other sciences; every observation is of a particular fact, but every application of laws to new cases presupposes a certain degree of uniformity. The value of consciousness is dependent on the most uniform and unequivocal correlation between experience and the physical world; Fechner's attempt to vindicate psychical values by a discrepancy in this respect was therefore a mistake. Uniformity of correspondence between stimulus and experience is dependent upon homogeneity of the nervous conducting system. The conducting paths must, however, be well insulated from each other, so as to permit spatial discrimination. A large number of psychophysical laws have been expressed in mathematical form; it must not be overlooked that such laws always presuppose a conscious attitude of the observer towards the stimulus, and that without the appropriate conscious setting the formula is meaningless. In the study of speech-reactions, our interest is in the meaning of the words—in their character as indicating experience of the speaker. The experimenter's task is to reconstruct the meaning of the sounds uttered by the subject, not to analyze them by behavioristic (phonetic-physiological) methods. Speech, however, gives us a means for an objectively controllable reproduction of the individual experience. It enables us to attain that which the behaviorists (Heinrich, Pavlov, Watson) have declared impossible.—*D. McL. Purdy* (California).

[See also abstract 2186.]

## SENSATION AND PERCEPTION

2093. **Adrian, E. D., & Matthews, R.** The action of light on the eye. Part I. The discharge of impulses in the optic nerve and its relation to the electric changes in the retina. *J. Physiol.*, 1927, 63, 378-414.—The action currents of impulses in the optic nerve of the eel and of the frog when the retina is illuminated were recorded. They obey the all-or-nothing relation and do not differ appreciably in time relations or in grouping from the action currents in other sensory nerves. The discharge rises rapidly to a maximum frequency and then declines. If the illumination has lasted a second or more there is a renewed outburst of impulses when the light is turned off. A movement of light and shadow in the visual field is a much more effective stimulus than a steady pattern. If the retinal image does not exceed 1 mm. in diameter the effects of an increase in size of image are the same as those of an increased intensity of illumination. Both the latent period and the maximum frequency of discharge are determined by the quantity of light in unit time. There is a fixed interval between the initial negative deflection of the retinal response and the beginning of the optic nerve discharge. When the light is switched off there is a similar, though possibly shorter, interval between the beginning of the positive retinal response and the "off" discharge in the optic nerve.—*H. Banister* (Cambridge, England).

2094. **Bazett, H. C., & McGlone, B.** Note on the pain sensations which accompany deep punctures. *Brain*, 1928, 51, 18-23.—"The pain experienced when arteries are punctured is described, and comparison is made with the similar pain experienced when the deep fascia is pierced or exposed to tension, or when the



periosteum is injured. The occasional pain experienced when a vein is punctured is of the same type. The sensation is that of a dull ache, not necessarily very painful, though difficult to endure and associated with reflex changes of an autonomic type, such as sweating, fainting, or nausea."—*E. N. Brush* (Boston Psychopathic Hospital).

2095. **Crane, G. W.** **The tactual qualities of spoken vowels and diphthongs.** *J. Abn. & Soc. Psychol.*, 1928, 22, 473-479.—An experiment in which three deaf men and three subjects with normal hearing were used to determine the accuracy of distinguishing vowels and diphthongs by means of placing the fingers lightly on a diaphragm.—*C. H. Johnson* (Boston Psychopathic Hospital).

2096. **Edridge-Green, F. W.** **The classification of the color-blind.** *Rep. Brit. Asso. Adv. Sci.*, 1927, 374.—Cases of color-blindness may be divided into four classes: (1) defective hue discrimination, (2) defective light perception, (3) defective color perception due to abnormality of fovea, (4) defective location of color, e.g., location of pure yellow to one side, either towards the red or towards the green, of the normal. Defective hue discrimination may be classified according to the number of colors which are seen in the spectrum. Abnormalities and defects of light perception may be subdivided according to the visible range of the spectrum, increased or decreased sensitivity for certain wave lengths, variations in maximum luminosity and in the power of dark adaptation.—*H. Banister* (Cambridge, England).

2097. **Ellis, F. W.** **The nature of the stimulus which excites the blue arcs of the retina and related phenomena.** *Amer. J. Physiol.*, 1928, 84, 485-489.—Experimental conditions were arranged by which it was hoped to demonstrate objectively, if possible, Mrs. Ladd-Franklin's phenomenon of luminescence of stimulated nerve fibers. Every effort failed to reveal a visible radiation of luminescence. There is a description of certain after-images which follow the appearance of the blue arcs in the stimulated frog's retina. The author is led to the adoption of the electric theory as the explanatory principle underlying the blue arc phenomenon.—*M. J. Zigler* (Wellesley).

2098. **König, J.** **Die Bezeichnung der Farben. Umfang, Konsequenz und Übereinstimmung der Farbenbenennung, philologisch-historisch betrachtet, sowie experimentell-psychologisch untersucht.** (Color-naming; its range, its rationale and its uniformity. A philological and historical discussion, and an experimental study.) *Arch. f. d. ges. Psychol.*, 1927, 60, 129-204.—The arguments for the theory that the Homeric Greeks were color-blind are reviewed and found unconvincing. The color-vocabularies of the Greek, Latin, Gothic, Old High German, Middle High German and New High German languages are set forth, and examined as to their systematic principles. Color-adjectives do not refer solely to the properties of objects, but partly to affective elements in the color-experience; this experience is a complex-quality in Krüger's sense. Wundt's theory that color-names are originally derived from concrete objects (as is obvious, e.g., in the case of *orange*) is well substantiated both by philology and by genetic psychology. Popular terminology emphasizes striking and unusual characters of objects at the expense of exact description. In the experimental part of this study, an attempt was made to find out how far the various color-names refer to definite and constant points in the color-system. Adults and children of both sexes, 283 in all, acted as observers. They were first required to determine, in a series of 27 colors arranged in the form of a color-circle, the limits of the various colors yellow, green, etc. The limits were found to be least variable in the case of red, green, yellow and blue; these colors are rightly to be called "principal sensations." The dispersion of judgments for orange and purple was much greater, that for violet slightly greater. In the second type of experiment the observer had to name, as precisely as possible, each of 22 colored

papers. Little system and uniformity was displayed in these judgments; they varied considerably among different individuals and also in the same individual at different times. Finally, the subjects were asked to locate memory-colors, such as the color of the blue sky, on the color-circle. Here excellent agreement was found.—*D. McL. Purdy* (California).

2099. **Kravkov, S. W.** *Über die Adaptation des Auges an farbige Lichtreize.* (On the adaptation of the eye to colored light stimuli.) *J. f. Psychol. u. Neur.*, 1928, 36, 87–102.—The brightness loss of colors as a result of adaptation is shown to follow Lasareff's theoretical equation for the curve of brightness adaptation in respect to all the significant variables and constants. One constant in the equation varies with wave-length. The obtained values for such constants indicate that violet is much more "fatiguing" than red. The least "fatiguing" effect is obtained with green light.—*L. T. Spencer* (Yale).

2100. **Notson, E. B.** *The visual hygiene of school children.* *School & Soc.*, 1928, 27, 428–430.—The author has discovered that children in the first grade tend on the average to hold their reading materials at an average distance of 8.2 inches from their eyes, and that the reading distance tends to increase at the rate of slightly less than an inch a year until 13 inches are reached. Believing that the effects of the slight loss in accommodative power during childhood and the slight increase in inter-pupillary distance with age are offset in large measure by the alterations in the antero-posterior diameter of the eye-ball, the author suggests that mere ocular changes probably do not account entirely for the greater reading distance of the older or more advanced child. The suspicion is expressed that mental factors, especially imitation, are, at least in part, responsible for the phenomenon.—*H. L. Koch* (Texas).

2101. **Scheerer, R.** *Der erste sichere Fall von Oguscherischer Krankheit mit Mizoschem Phänomen ausserhalb Japans (angeborene Nachtblindheit mit weissgrauer Verfärbung des Augenhintergrundes, die nach längerem Dunkel-aufenthalt verschwindet).* (The first sure case of Oguchi's disease with Mizuo's phenomenon outside Japan: congenital night-blindness with gray-white coloring of the eye background, which disappears after prolonged sojourn in the dark.) *Klin. Monatsbl. f. Augenhk.*, 1927, 78, 811–813.—Single case. A cousin on paternal side night-blind but not examined.—(*Courtesy of Eug. News.*)

2102. **Stopford, J. B. S.** *Symposium on sensory disorders in organic disease of the nervous system: I. Disturbances of sensation following section and suture of a peripheral nerve.* *Brain*, 1927, 50 (Parts 3 & 4), 391–398.—". . . After division and successful suture of a peripheral nerve the recovery of cutaneous and deep sensation occurs in two stages. The explanation for the existence of these two stages is provided by reference to the functions of the thalamus and the sensory cortex, together with a recognition of the disturbances of intraneural pattern which are known to result from the operation of nerve suture. This central explanation not only accounts for all the observed facts and for the normal (protopathic) sensibility of the glans penis, but is also in accord with our knowledge of evolution of the nervous system."—*E. N. Brush* (Boston Psychopathic Hospital).

2103. **Watson, F. R.** *Acoustics of auditoriums.* *Science*, 1928, 67, 335–338.—Recent studies show that acoustic effects depend upon the growth of sound in a room as well as upon reverberation and the decay of sound. An acoustically dead space seems advantageous from the point of view of the listener, approaching the conditions of an outdoor theater. The performer or speaker, however, prefers a considerable amount of resonance.—*G. J. Rich* (Institute for Juvenile Research).

2104. **Wilson, S. A. K.** *Symposium on sensory disorders in organic disease of the nervous system: IV. Dysæsthesiæ and their neural correlates.*

*Brain*, 1927, 50, 428-462.—“Dysæsthesia” is used to include all such apparently spontaneous disturbances of sensation as patients describe as “burning,” “coldness,” “wetness,” “numbness,” “deadness,” “tingling,” “pricking,” “pins and needles,” “pain,” “sensation of something moving,” etc. Cases are considered with respect to the level of the associated lesion. The clinical possibilities are so complex as to make a simple account of the pathogenesis impossible. Under certain conditions, the author believes, a neural origin may be posited, while under others a vascular or sympathetic vascular origin underlies the consciousness of tactile, painful and thermal dysæsthesiæ. The interpretation of dysæsthesiæ of a “mixed” type is more complex, and many cases are of psychogenic origin.—*E. N. Brush* (Boston Psychopathic Hospital).

[See also abstracts 2073, 2081, 2091, 2115, 2116, 2131, 2144, 2156, 2158, 2170, 2180.]

### FEELING AND EMOTION

2105. **Bard, P. A diencephalic mechanism for the expression of rage with special reference to the sympathetic nervous system.** *Amer. J. Physiol.*, 1928, 84, 490-515.—Goltz, Rothmann and de Barenne have shown independently that decorticate animals express rage in a manner very similar to that of normal animals. After removal of cerebral hemispheres and diencephalon, Woodworth and Sherrington found emotional expression to be limited to so-called “pseud-affective reflexes.” This mode of expression of affective states is very different from that of the decorticate animals. Pseudoaffective reflexes “consist of isolated items of behavior, never attain a general affective state and are typically brought forth by stimuli which are connected with some habitual mode of response. . . . On the other hand the sham rage of the decorticate animal . . . is elicited by trifling disturbances of any kind, is astonishingly intense and possesses a width and energy of expression that makes it unmistakably the counterpart of intense fury in the normal animal.” The present investigator undertook to perform an experiment which falls midway between the two kinds of experiment given above. In order to determine what part of the brain is essential to the coordinated response of sham rage, he removed the hemispheres and then took away varying portions of the brain stem in 52 cats, 46 of which survived long enough to throw light upon the problem. Removal of the diencephalon consistently reduced affective expression to the level of pseudoaffective reflexes; consequently it is assumed that the mechanism which occasions the response of sham rage is located in that portion of the brain.—*M. J. Zigler* (Wellesley).

2106. **Izquierdo, J. J., & Cannon, W. B. Emotional polycythemia in relation to sympathetic and medulliadrenal action on the spleen.** *Amer. J. Physiol.*, 1928, 84, 545-562.—Emotional excitement of a cat by a barking dog for a period of one minute results in a prompt and marked increase in the red corpuscle count. The maximal increase occurs at the end of the minute of excitement, a fall sets in after five minutes, and the pre-excitation state is reached within a half hour. If a normal excitatory situation fails to occasion excitement, polycythemia does not take place. Emotional polycythemia does not occur “after removal of the upper abdominal sympathetic strands and bilateral severance of the splanchnic nerves.” Sectioning of the nerves to the spleen also prevents this reaction.—*M. J. Zigler* (Wellesley).

2107. **Malmud, R. S. Poetry and the emotions, (1) a dilemma for critics, (2) experimental verification.** *J. Abn. & Soc. Psychol.*, 1928, 22, 443-472.—The experiments conducted support in part the theory that emotions are the positive or negative after-effects of attitudes. The situations used in the experiments evoked on the whole the mild affective experiences, but the experimenter assumed

that the same pattern underlies the intense affective experiences as the mild ones.—*C. H. Johnson* (Boston Psychopathic Hospital).

2108. **Morita, T.** Flower preference of women. *Jap. J. Psychol.*, 1927, 2, No. 6, 1041-1050.—161 girls in Yamaguchi Girls' Normal School (Japan) were asked to rank 10 flowers, 5 Japanese (narcissus, chrysanthemum, camellia, lily, petronia) and 5 foreign (dalia, cosmos, tulip, hyacinth, sweet pea), with respect to preference. The girls consisted of four age groups which are: 16 special students, 20-22 years; 58 seniors, 18 years; 42 sophomores, 16 years; 45 demonstration class students, 13-14 years. The results showed that the three older groups agreed almost invariably in the following ranking: camellia, narcissus chrysanthemum, lily, cosmos, sweet pea, petunia, tulip, hyacinth, dahlia. The youngest group diverged markedly from this order. The agreement or disagreement of preference among these four age groups was further shown by the intercorrelations (by the rank method):

	Sen.	Soph.	Dem.
Spec.	.935	.965	.364
Sen.		.963	.436
Soph.			.323

It was concluded that flower preference in women was markedly consistent, and tended to shift from lighter to brighter colors as the ages advanced. The native flowers, particularly camellia, narcissus, and chrysanthemum, were very much preferred to imported flowers. Between 13 and 16 years flower preference seem to undergo a marked change. The beginning of adolescence may be a period in which stable preference in later years originates.—*J. G. Yoshioka* (California).

2109. **Schneider, K.** *Zur Psychologie und Psychopathologie der Gefühls-erlebnisse.* (On the psychology and psychopathology of affective experiences.) *Zsch. f. d. ges. Neur. u. Psychiat.*, 1928, 112, 233-246.—In the psychology of feeling, although there is an ever-growing accumulation of material, there is no satisfactory system and classification. Investigators are interested chiefly in the physiological foundation or the expressions of emotion, whereas the experiences themselves are neglected. The author begins by characterizing the feelings as against the sensations and conations by the presence of an algedonic sign and the special state of the ego. He defines feelings as "passive states of the ego experienced immediately as pleasant or unpleasant." In his classification he distinguishes, partly in agreement with Scheler, sensory, vital and mental feelings. The basis of this distinction is phenomenological. The sensory feelings are localizable, and they lack the teleological factor. As with Stumpf's "feeling-sensations," this author also finds no sharp boundary line between feelings and sensations. Psychopathologically, abnormalities in intensity, quality and duration must be taken into account. But as to abnormalities of quality, the author doubts whether they can be described, because the description can only be in terms of normal qualities. Abnormalities of sensory feelings are exhibited in "sensitive" psychopaths with their chronic complaints, and in hallucinations of pain. The vital feelings are non-localized, and have a teleological character; they are prognostic of something beneficial or harmful. Within this group there are phenomena which seem to support the "peripheral" theory of James and Lange; e.g., vital sadness, the grievous feeling of endogenous depression. Abnormalities of the vital feelings are found especially in the hysterical, the asthenic psychopaths, the encephalitic and the manic-depressive. Paralytic euphoria also should be added to this list. In normal persons, the "mood" is founded upon vital feelings, overlaid by mental feelings. The mental feelings are characterized by meaningful motivation; they can be divided into feelings of [mental] state and feelings of value, and the latter can be subdivided into feelings of value



of the ego and of the alter. In each group there is a distinction into positive and negative, and in case of the feelings of mental state there are also the neutral or "formal," e.g., wonder, awe. The feelings of value of the alter approximate Pfänder's "Gesinnungen." The author discards the customary classification based on content (logical, ethical, esthetic and religious feelings). The emotions are affective processes with intense bodily resonance. Psychopathology may involve the entire affective life or only single feelings. It includes the plethora of the manic, the lability of the psychopath and of the patient with a brain lesion, the desolation and alienation of the schizophrenic. "Ecstasy" is a special form. Not uncommonly the variants bear an habitual character, so that Bleuler speaks of "thymopaths." Qualitatively abnormal is the alteration of the affective character of objects in schizophrenic delusion. Abnormality of the relationships is exhibited in the phenomena of ambivalence and of absence of rapport. Abnormality of the object is seen in the perversions. Finally, the author proposes a quantitative as opposed to an appreciative concept of the norm. (A well compiled bibliography is added.)—*S. Krauss* (Heidelberg).

2110. **Weber, C. O.** *Introspective method and the theory of primary and derived emotions.* *J. Abn. & Soc. Psychol.*, 1928, 22, 406-414.—The aim was not to show that purposiveness is a valid category in psychology, but to show that one cannot hold to psychological teleology and still reject introspective data. An attempt was made to reject Watson's theory of emotions without introspective data and to give experimental verification of the introspective approach to the emotions, as given in McDougall's writings. The author believes the 48 women subjects were able to isolate the primary emotions with some success, and to analyze the derived emotions with some skill. The tentative correlations show that the more intelligent the student, the more she approaches McDougall's analysis, and also that McDougall's analysis is almost wholly independent of individual peculiarities of association, emotion, and temperament, as measured by the best available tests.—*C. H. Johnson* (Boston Psychopathic Hospital).

#### ATTENTION, MEMORY AND THOUGHT

2111. **Gates, A. I.** *The nature and limit of improvement due to training.* *27th Yrbk. Nat. Soc. Stud. Educ.*; Part I, 1928, 441-460.—The study is divided into two parts, one on the effect of intensive practice upon speed in tapping, and one on the effect of practice upon digit span. In the first part, two groups of children matched for intelligence, age, sex, grade, tested motor skills, and initial tapping speed were given three short practice periods in tapping daily for 18 days. One group then went on with practice for 76 days, and at the end of that time excelled their controls somewhat in tapping speed. But after 17 more days of practice by both groups, the two groups were virtually equal again. In the second part a somewhat similar experiment was carried on which concerned memory for digits. One group of pupils practiced digit series on each of 78 days extending over 5 months, and increased their average span from 4.33 to 6.40. The controls, matched for age, sex, intelligence, scholastic maturity, school grade, and seven kinds of memory tests gained during the same period only 0.73. But when all practice was discontinued for 4½ months the experimental group dropped back to below the level of the controls. After 22 days of subsequent practice, the groups improved to about the same extent. The author concludes from both the above experiments that improvement during practice was due to the development of evanescent skills and techniques rather than to growth in the fundamental capacities.—*B. S. Burks* (Stanford).

2112. **Thorndike, E. L.** *A fundamental theorem in modifiability.* *Proc. Nat. Acad. Sci.*, 1927, 13, 15-18.—Experiments were conducted to determine



whether a more frequent response to a given stimulus increases in relative frequency as a result of repetition. Stimuli were used which would normally evoke a diversity of response in successive repetitions: "Draw a two-inch line with your eyes closed"; "Write any number from 0 to 9"; "Spell the following nonsense syllable." The incidence of the most common response in the first 20 trials was compared with the incidence in the last 20, at the end of a long series. No evidence was found that "mere frequency of the use of  $S \rightarrow R_1$  strengthened it at the expense of weaker connections  $S \rightarrow R_2$ ,  $S \rightarrow R_3$ , etc. . . . Greater relative frequency is not a selective force. To explain the facts of modifiability some influence from the consequences of a connection is required."—H. E. Jones (California).

[See also abstract 2130.]

## NERVOUS SYSTEM

2113. Core, D. **The examination of the central nervous system.** Edinburgh: Livingstone, 1928. Pp. xi + 248. 8/6 net.—This book is intended mainly for medical students who are in the course of their training in neurology. It gives a brief but very lucid account of contemporary methods of examination for clinical purposes. The author deals with the motor system, devoting particular care to the examination of reflexes, with the sensory nervous system, with psycho-somatic and trophic disorders, with speech, and with the general mental state of the patient. He emphasizes the extreme importance of obtaining as complete a history of the patient as possible, discusses in detail the routine of an examination, and adds notes on blood pressure, the study of the cerebrospinal fluid, the use of X-rays in examinations of the nervous system and the investigation of electrical reactions. The volume is concluded by four chapters on the diagnosis of nervous diseases. There are a short list of books of reference and a good index.—F. C. Bartlett (Cambridge, England).

2114. Fischl, E., & Kahn, R. H. **Untersuchungen an einem Nerv-Muskelpräparate zur Beobachtung einzelner quergestreifter Muskelfasern.** (Investigations on a muscle-nerve preparation from the observation of single striped muscle fibers.) *Pflüg. Arch. f. d. ges. Physiol.*, 1928, 219, 33-46.—In the membrana basi-hyoidea of the frog it is possible to observe the behavior of single muscle fibers, using direct and indirect artificial stimulation. Shortening of the fiber does not occur for various strengths of stimulus in accordance with the all-or-nothing law, but varies with the intensity of stimulation. Stimulation of fibers of the vegetative nervous system produces no visible mechanical or structural change in the muscle fiber.—L. T. Spencer (Yale).

2115. Harris, W. **Symposium on sensory disorders in organic disease of the nervous system: II. Sensory changes in spinal cord and medullary lesions.** *Brain*, 1927, 50, 399-412.—Disorders of sensation appearing in lesions of the spinal cord and medulla, as seen in nervous disease and in injuries, are the subject of this paper. The facts and principles are well illustrated by brief citations of clinical material, and there is some discussion of the neuro-anatomical implications.—E. N. Brush (Boston Psychopathic Hospital).

2116. Holmes, G. **Symposium on sensory disorders in organic disease of the nervous system: III. Disorders of sensation produced by cortical lesions.** *Brain*, 1927, 50, 413-427.—In pure cortical lesions those forms of sensation which give us information as to the position in space of parts of the body, the spatial relations of different portions of our limbs and of their movement, and the power of recognizing the shape of objects by handling them and their weight are more affected than cutaneous sensibility. These forms of sensation in which the cortex is directly concerned may be lost together or separately. The disturbances of sensation produced by a lesion of the sensory area of one hemisphere are always

limited to the opposite side of the body, and may extend over the whole of the side, or may be limited to a limb or portion of a limb. The author concludes from his experience that the sensory area of the cortex lies entirely behind the central fissure, and that the precentral gyrus has no sensory functions. There is no general agreement as to sensory localization, but some relationships between sensory disturbance and affected area observed by the author are mentioned.—*E. N. Brush* (Boston Psychopathic Hospital).

2117. **Krüger, R.** *Reizschwellenbestimmung am Froschnerven mit Wechselstrom.* (Stimulus threshold determination for frog nerve with alternating current.) *Pflüg. Arch. f. d. ges. Physiol.*, 1928, **219**, 74–81.—Threshold values for stimulation of a muscle nerve preparation of the frog at various frequencies of alternating current between 400 and 6700 cycles indicate that Nernst's law ( $i = kf^{0.5}$ ) does not hold as the higher frequencies are reached. The exponent of the frequency  $f$  varies in the frequency range studied from 0.5 to 0.9.—*L. T. Spencer* (Yale).

2118. **Monrad-Krohn, G. H.** *The clinical examination of the nervous system.* New York: Hoeber, 1927. Pp. xvi + 201. \$2.50.—*W. S. Hunter* (Clark).

2119. **Mussen, A. T.** *Symposium on the cerebellum: IV. Experimental investigations on the cerebellum.* *Brain*, 1927, **50** (Parts 3 & 4), 313–348.—In this paper are described experimental investigations of cerebellar structure and function, with discussions of earlier work in the field. The observations made of the cerebellar connections of the posterior column nuclei lead to the conclusion that the function of these nuclei is to convey afferent impressions from the muscles, tendons and joints of the entire body to the cerebellar vermis and the opposite thalamus. The cerebellar nuclei and their associations are described in some detail. Observations are reported upon the head and eye movements produced in response to stimulation of the posterior vermis and the median group of cerebellar nuclei. Experimental lesions of the red nucleus in the cerebellar were made, and the results controvert the conclusions of Magnus and De Kleijn that when the red nuclei are injured rigidity always develops and the righting reflexes are lost. The loss of the "righting reflex" in a rabbit after an experimental lesion of the flocculus is reported. The paper is concluded with a preliminary report on the response of the cerebellar cortex of the cat to stimulation, with a diagram summarizing the reactions, and with a list of those demonstrated on a cinematograph. The material is illustrated with diagrams and photomicrographs.—*E. N. Brush* (Boston Psychopathic Hospital).

2120. **Pollock, L. J., & Davis, L.** *Symposium on the cerebellum: III. The influence of the cerebellum upon the reflex activities of the decerebrate animal.* *Brain*, 1927, **50** (Parts 3 & 4), 275–311.—The modification of the reflex activities and postures of a decerebrate animal produced by the destruction of the labyrinth, cerebellum, and parts of the brain stem is the subject of this study. The method of decerebration by anaemia, which was used in the experimental work, is described in some detail. The pattern and degree of rigidity in a decerebrate animal are not changed by removal of the cerebellum. Lasting patterns of rigidity in flexion occur in labyrinthless decerebrate animals and are unchanged by removal of the cerebellum. Co-existing normally distributed tone, patterns of rigidity in extension and flexion, crawling, climbing and springing are produced in animals in which a segment of the basal artery has been isolated between two ligatures some distance apart, and in animals decerebrated at a relatively high level. Removal of the cerebellum does not affect the functional interrelation of muscular contractions resulting from tonic and certain phasic reflexes of a decerebrate animal. The cerebellum as a whole inhibits in a general way the tonic labyrinthine reflexes. The cerebellum inhibits rebound extensions in a decerebrate animal. Removal of the cerebellum permits the regular and forceful occurrence of rhythmic reflexes in a decerebrate animal. These findings still leave

the problem of cerebellar function largely unsolved, with much research needed to determine its function in relation to high cerebral activities. A bibliography is appended.—*E. N. Brush* (Boston Psychopathic Hospital).

2121. **Riley, H. A. Symposium on the cerebellum. II. A comparative study of the arbor vitae and the folial pattern of the mammalian cerebellum.** *Brain*, 1927, 50, 276.—A brief note concerning a paper to appear in full in the *Archives of Neurology and Psychiatry*.—*E. N. Brush* (Boston Psychopathic Hospital).

2122. **Rschevkin, S. N., & Malov, N. N. Untersuchung der Muskelreizschwelle durch Wechselstrom.** (Investigation of stimulus threshold of muscle by alternating current.) *Pflüg. Arch. f. d. ges. Physiol.*, 1928, 218, 708-715.—The stimulus threshold of muscle in the finger and wrist was measured for alternating current between the frequencies of 288 and 322,000 cycles. Nernst's law for such thresholds ( $J = k\sqrt{N}$ ) (where  $J$  = the threshold in millamperes,  $k$  = a constant for the particular muscle, and  $N$  = the frequency) was found to hold only up about 3000 cycles. For higher frequencies the results are approximately expressed by the equation  $J = KN$ . Above 90 kilocycles a sensation of warmth also appears, which at 320 k.c. is difficult to endure. The muscle is much more sensitive to pulsating direct current (at 50 per sec.) than to corresponding frequencies of alternating current.—*L. T. Spencer* (Yale).

2123. **Sachs, E., & Fincher, E. F. Symposium on the cerebellum: V. Anatomical and physiological observations on lesions in the cerebellar nuclei in *Macacus rhesus*.** (Preliminary report.) *Brain*, 1927, 50 (Parts 3 & 4), 350-356.—A preliminary report of yet unfinished research on the cerebellar nuclei is given in this paper. The positive findings reported are: that nystagmoid movements arise from stimulation of the nucleus globosus and nucleus fastigii, while the dentate and the embolus give rise to movements of the fore and hind limbs, but no nystagmoid movements, the only movements of the eyes being those of conjugate deviation which are associated with the turning of the head; that fibers from some of the more laterally placed nuclei in the cerebellum go forward as far as the red nucleus and send fibers into the third nucleus; that there are definite fibers going from the cerebellar cortex up into the region of the red nucleus and the basal ganglia, showing that the original contention of Horsley and Clarke that all cortical cerebellar fibers go only to the nuclei is not correct.—*E. N. Brush* (Boston Psychopathic Hospital).

2124. **Tilney, F. Symposium on the cerebellum. I. The chief intracerebellar and precerebellar nuclei, with a demonstration of models and charts.** *Brain*, 1927, 50 (Parts 3 & 4), 276-277.—“The genesis of the chief nuclei connected with the cerebellum in vertebrates, and more particularly in mammals, reveals an evolutionary process which appears to be dependent upon the transition from quadrupedal to quadrumanous specialization, with the final assumption of bipedal and bimanual adaptation. Some of the cerebellar and precerebellar nuclei illustrate this process more than others. This is true of the nuclei involved in neokinetic development. The nuclei involved in paleokinetic development give less evidence of evolutionary process.”—*E. N. Brush* (Boston Psychopathic Hospital).

2125. **Weisenburg, T. H. Symposium on the cerebellum: VI. Cerebellar localization and its symptomatology.** *Brain*, 1927, 50 (Parts 3 & 4), 357-377.—“The function of the cerebellum is to synergize all motor activity. The cerebellum never acts alone. Its activities are correlated with the other motor levels in the cerebral cortex, mid-brain and spinal cord. Lesions of the cerebellum produce positive and negative symptoms. The positive symptoms consist in an inability to perform synergic movements properly. The negative symptoms, i.e., the difficulty in movements, whether of the trunk or limbs, are the result of the activity of the other motor levels in the cortex and mid-brain acting through the

spinal cord. There is functional localization in the cerebellum. In the vermis are represented the synergic activities of the trunk; in the superior vermis the movements of the shoulder-girdle or upper trunk; in the inferior vermis the pelvis-girdle or lower trunk. Synergic activities concerned in talking and movements of the eyes are located in the vermis, in all probability in the superior vermis. Synergic control of the limbs is in the lateral hemispheres, for the upper limbs in the superior portion, for the lower in the inferior. There are no centres for deviation in the cerebellum. The fundamental defect symptom of a cerebellar lesion is asynergia. Such symptoms as dysmetria, hypermetria, ataxia, adiadokokinesis, are the resultants of disturbance of synergy. The recommendation is made that the complicated terminology used to describe symptoms of cerebellar deficit be abandoned, and that instead actual symptoms be described in terms of loss of synergy. The extent of the synergic disturbance present depends upon the nature, extent, and localization of the lesion. In acute lesions atonia and asthenia are present. This probably results from a temporary disturbance of the other motor physiological levels. In all other ways symptoms of acute and chronic lesions are similar. In every cerebellar patient an attempt should be made to delimit cerebellar symptomatology to parts of the body with a view to localization of function."—*E. N. Brush* (Boston Psychopathic Hospital).

2126. **Woronzow, D. S.** *Beobachtungen über das Refraktärstadium des Nerven. II. Veränderungen des Refraktärstadium bei Einwirkung von ein- und zweiwertigen Kationen auf der Nerven.* (Observations on the refractory phase of nerve. II. Changes of the refractory phase of nerve under the influence of uni- and bivalent cations.) *Pflüg. Arch. f. d. ges. Physiol.*, 1928, **218**, 716-736.—Univalent cations (K, NH<sub>4</sub>) greatly impede the inhibitory action of the anelectrotonus on the first excitation phase (see II: 878) and facilitate the action of the catelectrotonus on the second phase (end of the absolute and beginning of the relative refractory phase). Bivalent cations (Ca, Ba, Mg) show the reverse of this effect. It is therefore suggested that the initial phase is a rather simple colloidal process but that the secondary phase is based on a more complicated biochemical process of a fermentative character.—*L. T. Spencer* (Yale).

2127. **Zand, N.** *Decerebrate rigidity from a clinical and physiological standpoint.* *J. Nerv. & Ment. Dis.*, 1928, **67**, 105-119.—From the results of this experimental and clinical study the author infers that the nucleus olivaris inferior centralizes the mechanism which governs the function of standing, and is responsible for decerebrate rigidity. This theory is confirmed by the fact that decerebrate rigidity disappears when the olives are destroyed, and by clinical cases of decerebrate rigidity in which the olives are always well preserved, but the communication between the olives and the higher centers is destroyed.—*E. N. Brush* (Boston Psychopathic Hospital).

[See also abstracts 2097, 2102, 2104, 2105, 2106, 2141, 2143, 2158, 2206, 2226.]

## MOTOR PHENOMENA AND ACTION

2128. **Alvarez, W. C., & Zimmermann, A.** *Movements of the stomach.* *Amer. J. Physiol.*, 1928, **84**, 261-270.—Previous methods used in the study of the nature of waves of muscular contraction of the stomach wall have yielded rather inconclusive results. Gastric movements are here studied by the aid of motion pictures. The results indicate that gastric peristalsis is more complex than has been indicated hitherto. While the wave in the longitudinal muscle runs peristaltically all the way to the pyloric line, the wave in the circular muscle changes into a systole. The extent of pars pylorica involved in systole varies from animal to animal and from time to time in the same animal. Other varieties of activity are indicated, such as small, shallow, almost stationary contractions, tonus



changes, peristaltic waves which travel only part way over the stomach wall, reverse peristalsis.—*M. J. Zigler (Wellesley)*.

2129. **Benedict, F. G., & Parmenter, H. S.** The energy metabolism of women while ascending or descending stairs. *Amer. J. Physiol.*, 1928, 84, 675-698.—The oxygen consumption of twelve young women during walking horizontally, climbing and descending stairs, was determined by a respiratory apparatus which was carried mainly by the operator instead of by the subject. The optimal rate of walking on the level was found to be at about 65 meters per minute. Sauntering is very uneconomical. In general, climbing stairs demands about fifteen times as much energy as walking the same distance on the level, and descending requires about one-third as much energy as climbing.—*M. J. Zigler (Wellesley)*.

2130. **Dunlap, K.** A revision of the fundamental law of habit formation. *Science*, 1928, 67, 360-362.—The common assumption, that a response to a given stimulus pattern increases the probability that the same response will follow a recurrence of the same stimulus, is rejected. A substitute postulate is suggested, which states that the response has no effect on the future probability of the same stimulus pattern producing the same response, or that it actually decreases the probability. It permits the action of both positive and negative chance factors. That the latter do occur can be shown by the effect of conscious performance of an act in eradicating it, of which examples are quoted and applications to ties, stammering and other undesirable habits suggested. It would appear, in the light of this postulate, that dreams are a normal process for forgetting those details of daily life which are not needed. The confessional and the psychoanalytic methods are similarly interpreted.—*G. J. Rich (Institute for Juvenile Research)*.

2131. **Fischer, M. H.** Messende Untersuchungen über die Gegenrollung der Augen und die Lokalisation der scheinbaren Vertikalen bei seitlicher Neigung (des Kopfes, des Stammes und des Gesamtkörpers). I. Mitteilung. Neigungen bis zu 40°. (Quantitative studies on the compensatory rolling of the eyes and the localization of the apparent vertical accompanying sidewise inclination (of the head, of the trunk and of the whole body). Part I. Inclinations up to 40°.) *Graefes Arch. f. Ophth.*, 1927, 118, 633-680.—An elaborate research with refined apparatus. Most of the experiments were made on one subject. Eye-movements were determined by the after-image method. When the head or body is inclined the amount of eye-rolling increases continuously with the inclination when the latter ranges from 0° to 40°. The greatest amount, 5° to 6°, was found at 40° inclination; this agrees with the results of earlier investigators. This compensatory rolling has a transitory and a persistent component. The former depends on the speed of inclination and corresponds to the "slow" component of rotational nystagmus. It vanishes after a few seconds in the inclined position. The other component remains so long as the inclination is maintained and is a persistent position-reflex. It is with this component that these studies are chiefly concerned. Inclinations of the trunk, the head being kept vertical, cause eye-rolling. The meridian which was initially vertical rotates towards the axis of the trunk. With the trunk at 40° this rotation amounts to 2° or 3°; it is to be regarded as an effect of neck-reflexes. All the above eye-rollings are subject to fluctuations in time in the same individual. For a direct comparison of the rollings in the case of body-, head- and trunk-inclinations respectively, the three types of experiment were conducted in immediate succession, with 40° inclination in each case. The rolling was here found to be greatest for the inclination of the head; in this case it corresponds to the algebraic sum of the rolling accompanying an equal and like inclination of the body and that accompanying an equal and opposite inclination of the trunk. Hence the compensatory rolling is dependent, not merely on the position of the body or head in space, but also on the relative placement of the head with respect to the trunk. The determinations of the apparent vertical were made with a luminous slit in a dark room. When the body



is inclined the apparent vertical is to a certain extent carried with it (Aubert phenomenon). A similar but less pronounced result was found for head-inclinations and also for trunk-inclinations with vertical head. It may be concluded that labyrinthal and extra-labyrinthal graviceptors affect the apparent vertical. Whether in addition the relative position of the body with respect to the trunk plays a part independently of gravity (i.e., *via* proprioceptors in the neck) cannot be definitely decided. A copious bibliography is given in the form of footnotes.—*D. McL. Purdy* (California).

2132. **Hobgen, L. T.** *The comparative physiology of internal secretion.* New York: Macmillan, 1927. Pp. 148.—This book presents briefly the history and the basic knowledge of internal secretion from the viewpoint of comparative physiology. The first chapter defines an endocrine organ and indicates some of the difficulties incident to endocrine research, such as effects due to impurities in the glandular extracts and the interpretation of the results of removal of the glands. Adrenalin, the only autocoid occurring in the invertebrate animals, is discussed in its relation to nervous coördination. The methods used in the biological assay of adrenalin are mentioned. Evidence is presented to show that it is not likely that adrenalin plays any part in vasomotor regulation, in fright, or in asphyxia. The relations between adrenalin and the sympathetic nervous system are illustrated for the different groups of animals. The annelids seem to be the lowest animals in which adrenalin is secreted. Adrenalin is found in the secretions of the poison glands of several of the invertebrate animals. The other endocrine organs occur in the animals belonging to the phylum *Chordata* and mainly in the animals belonging to the group *Craniata*. The control of the chromatophores of amphibians and reptiles by the adrenal and pituitary secretions is illustrated. The control of the pancreatic secretion by secretin is mentioned. The gastric secretion seems not to be controlled by a hormone. Extracts of the posterior lobe of the pituitary affect the uterus in concentrations as low as one part in twenty billion. A suggestion is made with regard to the factors which permit or initiate birth. A review of the information concerning the control of the capillary circulation by the pituitary secretion is given. The hormone affecting the circulatory system seems to come from a different part of the gland from that which causes the oxytocic effect on the uterus. Diuresis caused by pituitary substance may be caused by a specific effect which liberates chlorides and potassium from the cells. A short review is given of the regulation of metabolism by the thyroid hormone and insulin. The knowledge of the latter is less clear, as insulin occurs in several organs of the body as well as mainly in the interstitial tissue of the pancreas. The rôle of the ductless glands in the developmental process is mentioned mainly in connection with the experiments on the changes in amphibian metamorphosis caused by thyroid extract and thyroxin. The book is clearly illustrated by 37 cuts and graphs and each chapter contains a selected and critical bibliography.—*O. W. Richards* (Clark).

2133. **Howland, G. W.** *A study of basic tendencies.* *J. Abn. & Soc. Psychol.*, 1928, **22**, 383-387.—From the answers derived by asking groups of students what they would do if left \$200,000, the outstanding tendency appeared to be self-protection (acquisition) with amusements and travel ranking next. The expressions of desires were very limited, and raised the consideration that people are too prone to consider that the mental development of the human is far greater than it really is, when the results show how small a group of basal instincts controls each individual under specified conditions.—*C. H. Johnson* (Boston Psychopathic Hospital).

2134. **Löwenstein, O.** *Über die sogenannte paradoxe Lichtreaktion der Pupille. Klinische und experimentell-kinematographische Untersuchungen über ihre Symptomatologie und ihr Wesen.* (The so-called paradoxical light reaction of the pupil. Clinical and experimental-cinematographic studies of its

symptomatology and nature.) *Monatsschr. f. Psychiat. u. Neur.*, 1927, **66**, 148-167.—In a case of progressive paralysis paradoxical reactions to light were observed in three different known forms (Bekhterev-Westphal, Kehrer and Morselli-Leitz-Behr). In a case of tabes the paradox began as soon as the stimulus was repeated. By means of medium strength light stimuli following each other rapidly the paradoxical reaction can be elicited in the normal eye, so that the pathological phenomena can be traced back to a form of exhaustion of the pupil of a healthy person.—W. Wirth (Leipzig).

2135. Mace, C. A. Factors determining "natural" rates of mental and physical work. *Rep. Brit. Asso. Adv. Sci.*, 1927, 375.—The ratio of natural to maximum rates of working is far from constant, hence it seems important to standardize mental tests for both rates. In general accuracy varies inversely with speed of working. The work promises to elucidate the distinction between abilities and temperamental traits.—H. Banister (Cambridge, England).

2136. Ohm, J. Zur Augenzitternkunde. 10. Mitteilung. Über die Beziehungen zwischen Augen- und Kopfzittern der Bergleute. (On the twitching movements of the eyes. Part 10. On the relations between miners' nystagmus and head-twitching.) *Graefes Arch. f. Ophth.*, 1927, **118**, 745-770.—D. McL. Purdy (California).

2137. Olmsted, J. M. D., & Coulthard, H. S. The effect of low glycogen content on the fatigue curve and on lactic acid formation in excised muscle. *Amer. J. Physiol.*, 1928, **84**, 610-617.—M. J. Zigler (Wellesley).

2138. Pende, N. La vecchiaia può essere ritardata? (Can old age be retarded?) *Scientia*, 1927, **42**, 19-24.—After showing how the hypophysis, the sexual glands, the thyroid and the adrenal glands operate to produce signs of senility, the author states that by associating early enough, and in an opportune manner, organotherapies of the first three glands, old age might be postponed considerably.—R. G. Sherwood (Stillwater, Minn.).

2139. Perry, C. M. Habit as an explanatory concept in the social sciences. *Int. J. Eth.*, 1928, **38**, 269-283.—Criticism of the use of habit to explain all learned behavior.—M. Meenes (Lehigh).

2140. Schaeffer, A. A. Spiral movement in man. *J. Morph.*, 1928, **45**, 293-398.—Blindfolded persons walk, run, swim, row, and drive automobiles in clock-spring spiral paths of greater or less regularity when attempting to go in a straight line. The paths show marked individuality with some apparent correlation between temperamental differences and general characters of paths. The mechanism producing the spiral path lies in the central nervous system rather than the locomotor organs and seems to be of a common relation to similar mechanisms in motile organisms.—H. R. Laslett (Whitman).

2141. Schein, M. Az állati és emberi test sensomotoros központja. (The sensori-motor center of the animal and the human body.) *Gyógyászat*, 1926, **66**, 42.—The theory of the central organ put forth by Jos. Schein (brother of the author) in his work *Zentralistische Organisation und Seelenleben* (Braumüller, Leipzig und Wien, 1922) is here defended on the basis of the following facts: (1) The behavior of an animal after the loss of one or more legs takes into account the altered mechanical relationships. The animal is still able to travel in the direction which it desires, because it feels its body changed, and innervates the motor organs accordingly. (2) In the experiment of grafting a limb upon an amphibian, also in Bethe's experiment upon *Salamandra maculosa*, the behavior of the grafted limb is like that of the nearest normal limb; both act together in the same direction, in the service of the entire body. The operated animal has learned to feel the new limb and to innervate its muscles just like those of the neighboring normal limb; it has incorporated the grafted limb into its organism by central innervation. (3) The sensomobility described by Exner is related not merely to single body parts but to the entire organism. This view is favored also

by the behavior of the body in rope dancers, aerial acrobats, gymnasts, etc., in whom we must suppose there is always immediate perception of complicated groups of sensations, and prompt appropriate motor response. (4) The direction and control of body movements is determined by optical, auditory, olfactory and touch sensations. There must be a continual central connection between the sensory apparatus and the motor organs, which is mediated by the sensori-motor central organ.—*P. Ranschburg* (Budapest).

2142. **Schein, M.** *Asszociációs (feltételes) reflexek vagy senso-mótoros központi beidegzés.* (Associated (conditional) reflexes or sensori-motor central innervation.) *Gyógyászat*, 1927, **67**, 41–42.—In contradiction to Pavlov's theory, the animal body constitutes a continuous whole, innervated as a unit. Man and the more highly organized animals feel and move the body in the manner of the unitary sensori-motor organ as a coherent whole. Pavlov's attempt to replace psychic phenomena by conditioned reflexes is rejected as untenable.—*P. Ranschburg* (Budapest).

2143. **Schein, J.** *A legfőbb idegműködés.* (The highest nervous activity.) *Gyógyászat*, 1928, **68**, 5.—This is an attempt to disprove the presuppositions on which Pavlov bases his work, and the conclusions which he draws from his experiments on dogs. Conditioned reflexes could be regarded as the foundation of the behavior of the animal, and of its highest nervous activities, only if every higher nervous process were of the nature of a reflex. This is not the case; reflexes, such as coughing, sneezing, urination, defecation, etc., fail to occur in presence of the highest nervous activity of concentrated attention. The so-called appetent reflexes (*Zielstrebigkeitsreflexe*) of Pavlov, like the other species of reflexes posited by him, such as the liberating, the self-maintaining, the orienting, etc., are not reflexes at all. Pavlov errs when he concludes from his experiments that the dog analyzes perceptual presentations by the aid of the senses. The perceptual presentation is judged merely as a whole, e.g., whether or not it presages something to eat. The fact that the various sense impressions are perceived in their mutual relations tells in favor of the combination of the sense presentations by a central sensori-motor organ. Pavlov's theory that the animal organism is merely the sum of an enormous number of conditioned reflexes, and that the hemispheres, including the motor centers, are mere analyzers connected with the effectors, is untenable. The theory is disproved, further, by the facts regarding superfluous energy, which is exhibited by the young as play, song, etc., but also stands at the disposal of the individual in case of danger. And Pavlov's experimental dogs show in their behavior that these reflexes have been achieved by drill. Pavlov's hypotheses form a system of misunderstandings, and arise from neglect of those facts as a result of which the animal body is a whole innervated as a unit.—*P. Ranschburg* (Budapest).

2144. **Trömner, E.** *Reflexuntersuchungen an einem Anencephalus.* (Investigations of the reflexes in an anencephalus.) *J. f. Psychol. u. Neur.*, 1928, **35**, 194–198.—A case of a girl child, born with only the spinal cord up to the pyramidal decussation intact, who lived for two days, furnished an unusual opportunity for study of human reflexes of that level. The body was normal from the shoulders down. The reactions partially or completely present were: general body tonus, reflex response to pressure, pain, cold, stroking (of hand) choreic twitches, plantar reflex, and grasping reflex. By the last the full weight (7 lbs.) was supported to the height of 10 cm. The following reactions and behavior were absent: decerebrate rigidity; reflex response to light, sound, smell, taste, warmth, general contact; labyrinthine and neck reflexes, and Babinski reflex. Head's inclusion of warmth in the protopathic senses is not supported. The plantar reflex is seen to be the most primitive of the foot reflexes. Absence of the encephalic glands indicates that sex differentiation is determined at impregnation and not by hormonal influence during development.—*L. T. Spencer* (Yale).

2145. **Trout, D. M.** Consistency and the concept of instinct. *J. Abn. & Soc. Psychol.*, 1928, **22**, 398-403.—Modern biological and social studies have shown that the mechanistic conception of causality is inadequate for those sciences. Since habit, reflex, instinct, emotion and similar conceptions are implications of the mechanistic view of causality, the use of these terms involves the modern psychologist in patent inconsistencies. Instinct has been the object of more intense controversy because it suggests a false distinction between heredity and environment as causal factors in behavior and, therefore, introduces endless confusion and exaggeration into the pedagogy and explanation of biology, on the one hand, and genetic psychology, education and sociology, on the other. It is suggested that the general objection to the older terms as inconsistent with a bio-functional view of causality, and the special objection to instinct might be met by using as categories for the classification of both implicit and overt behavior the terms reaction, response and interaction.—*C. H. Johnson* (Boston Psychopathic Hospital).

[See also abstracts 2069, 2071, 2106, 2111, 2114, 2122, 2127, 2152, 2226, 2317, 2318.]

## PLANT AND ANIMAL BEHAVIOR

2146. **Fabre, J. H.** Social life in the insect world. (Trans. by B. Miall.) London: Duckworth, 1927. Pp. vi + 327. 3/6 net.—Detailed descriptions are given of the life histories of many insects. First is the cigale, so misrepresented by La Fontaine, the larva of which lives four years in an underground burrow; the adult insect sings all day, though for what purpose is not known. The praying mantis and the golden scarabeus beetle are both cannibalistic; the females devour the males as soon as they have served their purpose. The male *Sisyphus* beetle, on the other hand, helps the female to collect the balls of dung in which the eggs are to be deposited, propelling them over all obstacles, as its name implies. The *Philanthus* preys upon bees; it stings them to death, sucks their honey, and leaves the corpses for its larva, which can only eat them after the honey has been removed. The female great peacock and oak eggar moths by means of some mysterious effluvium attract the males to them in large numbers and from considerable distances. Three species of cricket, two of weevil, the truffle-hunting beetle, the elephant beetle and the pine-chaffer are also described.—*M. D. Vernon* (Cambridge, England).

2147. **Headstrom, B. R.** The behavior of mallard ducks. *Science*, 1928, **67**, 318-319.—A flock of ducks kept a swimming pool open during a freezing spell by continuous movement.—*G. J. Rich* (Institute for Juvenile Research).

2148. **Hitchcock, F. A.** The effect of low protein and protein-free diets and starvation on the voluntary activity of the albino rat. *Amer. J. Physiol.*, 1928, **84**, 410-416. These experiments show that a diet of low protein content (12%, all of vegetable origin) eventually has the effect of depressing activity. A protein-free diet or complete starvation in short periods serves as a powerful stimulus to activity.—*M. J. Zigler* (Wellesley).

2149. **Hopkins, D. L.** The effects of certain physiological and chemical factors on locomotion and other life processes in *Amoeba proteus*. *J. Morph.*, 1928, **45**, 97-119.—Amoebae raised in Ringer solutions of various contents were deterred from motor reactions or were killed as the contents of the solutions were raised above or lowered below the original content.—*H. R. Laslett* (Whitman).

2150. **Kleitman, N.** The physiology of sleep in puppies. *Amer. J. Physiol.*, 1928, **84**, 386-395.—Twelve puppies, varying in age from a week to three months, were used in an experiment which studied (1) the effects of artificially induced sleeplessness, and (2) the phenomena attending the onset of sleep. A litter mate



resembling as closely as possible each of these puppies was selected as control. In Experiment 1, the puppies were kept awake most effectively by walking, also by tugging at the rope attached to the collar at the moment the puppy was going to sleep. After three to four days of sleeplessness, which was sufficient to prove fatal in two cases, various tests were made. Muscular weakness and slight reduction in erythrocyte count were found, but there was no loss of temperature or reduction in leucocyte count, as other investigators have reported. The results of neurological changes occasioned by sleeplessness were also negative. As many abnormalities were detected in the preparations from controls as from those of the experimental animals. In Experiment 2, the brain was exposed and observation made of changes taking place at the moment of onset of sleep. The results are entirely negative. The blood vessels of the dura mater and of the cerebral cortex showed no changes whatsoever, either in size or in general appearance. This was true whether the puppy fell asleep spontaneously or was subjected to artificial sleep.—*M. J. Zigler* (Wellesley).

2151. **Kolozsváry, G.** *Lélektani kísérletek hangyákkal.* (Psychological experiments with ants.) *Allattani közlemények* (Quarterly Journal of the Zoological Section of the Royal Hungarian Society of Natural Science), 1928, 24, 180-184.—The author threw 35 individual ants of the species *Tetramorium caespitum*, one at a time, into a funnel 10-12 cm. high, built of sand, in order to determine whether they are able, in their attempts to escape, to find the easiest way out. In general the ants' behavior was very nervous, and only 6 out of the 35 attained the standard that in more than half their climbs they used their knowledge in the selection of the most suitable route. For the first ten individuals the funnels were made too steep, and only two of them found the right way in a total of 7% of 98 trials. But among the remaining individuals there were 30-60% of successful reactions. Red ants (*F. sanguinea*) behaved more calmly and achieved better results; thus, individual No. 34 was the only one with 10 out of 10 trials correct. The successes being so scattered, the author regards his experiments as being rather tests of individual temperament, testing the inhibitory influence of the emotions upon the intelligently adapted activities.—*P. Ranschburg* (Budapest).

2152. **Lee, M. O., & van Buskirk, E. F.** *The effect of thyroidectomy on spontaneous activity in the rat.* *Amer. J. Physiol.*, 1928, 84, 321-329.—The average daily activity of eighteen adult albino rats after thyroidectomy was essentially the same as before the operation. The authors interpret their results as indicating that the spontaneous activity of an animal is not dependent on its basal metabolism level.—*M. J. Zigler* (Wellesley).

2153. **Serra i Roure, E.** *Psicologia del ximpanzé.* (Psychology of the chimpanzee.) *Criterion*, 1927, 3, 334-335.—*R. R. Willoughby* (Clark).

2154. **Slonaker, J. R.** *The effect on offspring of different amounts of sexual indulgence in the albino rat.* *Amer. J. Physiol.*, 1928, 84, 442-452.—With light breeders, the second litter is larger than the first, and the last litter smallest of all; but with continuous and heavy breeders, the first litter is largest, and successive litters are regularly smaller. Females of medium breeders are fertile to a more advanced age than those which tend to destroy their young and remate promptly. The average sexual life is shorter in heavy breeders than in medium and light breeders. The weight of offspring is greater in litters of light breeders than in those of heavy breeders. The weight of young at birth correlates directly with the size of the litter. The number of stillborn males greatly exceeds those of females.—*M. J. Zigler* (Wellesley).

2155. **Thomson, J. A.** *The minds of animals.* London: Newnes, 1927. Pp. viii + 206. 2/6 net.—The book traces the outstanding characteristics of behavior from the sea anemone through worms, starfishes, crustaceans, insects, fishes, reptiles, birds and up to the apes. It then deals with various special questions: the



evolution of vision, of smell, of hearing, of the sense of balance, of feeling. It discusses courtship and mating, animal memory, numeration, temporal sense, homing, sleep and dreams, language, laughing, sense of property, cleanliness. A concluding chapter summarizes the results of the whole discussion, emphasizing caution in the interpretation of animal behavior, maintaining that the psychical can at no level be reduced to the physical, that while animals may display a great amount of intelligence they show little evidence of reason in the strict sense of the word. A position is expounded in regard to the mind-body problem. Due weight is laid upon the importance of the social activities of animals, and it is urged that the mental aspect of animal life must not be restricted to the control of activities, but may manifest itself also in feelings, in concrete purposes, in music and in artistry.—*F. C. Bartlett* (Cambridge, England).

2156. **Uyama, Y.** *Ein Beitrag zur Kenntnis der Anatomie der Sehzellen in der Netzhaut bei Affen und Meerschweinchen.* (A contribution to the anatomy of the visual cells in the retina of apes and guinea-pigs.) *Graefes Arch. f. Ophth.*, 1927, 118, 723-728.—The author describes the appearance of the fine longitudinal threads observed in the inner and outer segments of mammalian rods and cones. The findings are generally similar to those reached by other investigators in the case of lower animals. It is suggested that the outer thread is the primary receptive element in the rods and cones, and that the inner thread is of nervous nature. Bibliography of 9 titles.—*D. McL. Purdy* (California).

2157. **van Wagenen, G.** *Some effects of early castration on the growth of the male rat.* *Amer. J. Physiol.*, 1928, 84, 461-467.—Castration at the time of weaning reduces the rate of growth in weight and body length of male rats as compared with their unoperated control brothers. Body length indicates this reduction better than total length.—*M. J. Zigler* (Wellesley).

2158. **Whitside, B.** *Nerve overlap in the gustatory apparatus of the rat.* *J. Comp. Neur.*, 1927, 44, 363-377.—Taste-buds degenerate upon sectioning of the nerves by which they are supplied. This fact makes it possible to determine the distribution of chorda tympani (7th nerve) and glosso-pharyngeal (9th nerve) fibers in the tongue and to ascertain whether their areas of distribution overlap. In this study the author set out to confirm experimentally the existence of a gustatory chiasma, which has already been demonstrated morphologically, and to ascertain whether the 7th and 9th nerves overlap in the foliate papilla. Rats provided the materials investigated. Her data show that taste-buds of the fungiform papillae are supplied exclusively by fibers of the chorda tympani nerve. Nerve distribution is homolateral except, possibly, in the median line of the tongue, where bilateral innervation may exist. The chorda tympani plays no part in the innervation of the vallate papilla, which is supplied by the 9th. Unilateral sectioning of the 9th nerve caused very little degeneration of the taste buds of the vallate papilla—estimated at between 5 and 10% of the total number present. Bilateral sectioning, on the other hand, caused degeneration of all buds of that papilla. From this fact, the authors infer that all parts of the vallate papilla are supplied by both right and left nerves. Thus the older morphological evidence for a gustatory chiasma is confirmed by experimental evidence. The foliate papillae are supplied chiefly by the 9th nerve, yet a few fibers from the chorda tympani overlap this innervation, particularly in the anterior folds. The possibility of double innervation of some of the taste-buds of the vallate and foliate papillae is suggested.—*C. P. Stone* (Stanford).

2159. **Yoshioka, [J.] G.** *The discrimination of maze patterns by the rat.* *Jap. J. Psychol.*, 1927, 2, No. 5, 815-824.—A group of 30 rats was made to choose two pathways in a simple maze, which were equal in length, but differed in pattern (one, equilateral triangular; the other, concave pentagonal). Each rat had 6 choices daily for 10 days, 60 choices in all, by the free learning method, following the preliminary training of forced running in each path 6 times daily for 4 days.

By chance the choice of one of the two paths would be  $30 \pm 3.87$  ( $\sigma = \sqrt{npq}$ ), but actually it was found that the mean frequency of the choice of the pentagonal path was  $37.70 \pm 1.43$ . The difference between the probable and actual means was fairly significant, as shown by the critical ratio of 1.9. In order to see whether the greater choice of the pentagonal path was due to the operation of the laws of frequency and recency rather than to discriminative choice, the same rats were given another series of runs, 6 times daily for 10 days, in which each path was forced once daily just before the daily choice running began. By this daily practice method the mean frequency of the pentagonal path went up to  $39.13 \pm 1.84$ , the critical ratio increasing to 2.1. The significance of the difference between the probable and actual means increased. The superiority of the pentagonal choice here, however, may have been due to the practice effect carried over from the first series. In order to test out this suspicion a new group of 30 rats was trained in the same way and given choices, 6 times daily for 10 days, by the daily practice method. It was found that the mean frequency of the choice of the pentagonal path went up still higher to  $41.03 \pm 2.07$ , the critical ratio increasing to 2.5. In order to observe the effect of the daily practice method on the free learning method, the same rats were kept for 10 days more and given 6 choices daily, but the short daily practice was omitted. The mean frequency of the choice of the pentagonal path went down to  $36.87 \pm 2.11$ , the critical ratio decreasing to 1.6. It was concluded that: (1) the rat is able to discriminate maze patterns; (2) the rat prefers a concave-pentagon to an equilateral triangle of equal length; (3) the daily practice method is far superior to the free learning method for causing the discriminative preferences (rather than mere position habits) to appear.—*J. G. Yoshioka* (California).

[See also abstract 2272.]

#### EVOLUTION AND HEREDITY

2160. [Anon.] **Yehudi Menuhin.** *Eug. News*, 1928, 13, 32.—The juvenile violin artist, Yehudi Menuhin, is taken as a point of departure for a discussion of the possible genetic factors essential to genius.—*B. S. Burks* (Stanford).

2161. [Anon.] **National Research Council projects in heredity.** *J. Hered.*, 1928, 19, 91-94.—A report is given of recent activities of the National Research Council which may have interest to the A. G. A. The activities concern the Committees on Animal Breeding, Family Records, Tropical Research, Research Publications, and Cooperation; Biological Abstracts; National Research Fellowships; and Commission on Standardization of Biological Stains.—*B. S. Burks* (Stanford).

2162. [Anon.] **Recent progress in genetics.** *J. Hered.*, 1927, 18, 523-527.—This is a summary of Davenport's 1927 report to the Carnegie Institution. Brief mention is given the following: (1) Metz' work on sex determination in *Sciara*, from which the conclusion is drawn that the determination of sex is a function of the female egg; (2) the work of MacDowell and Allen on the rate of growth of mice embryos; (3) study of the effect of thyroid gland removal in mother mice upon growth of offspring, and of removal of reproductive organs in young mice upon subsequent growth; (4) negative results of attempt to determine sex through treating sires with alcohol; (5) Banta's study of *Daphnia* which thrived in water of a temperature so high as to be fatal to ordinary strains; (6) a study of the physical and mental traits of full-blooded negroes, whites, and mulattoes in Jamaica; (7) inheritance of goiter in 104 families in Maryland.—*B. S. Burks* (Stanford).

2163. **Briffault, R.** **The evolution of the human species.** *Scientia*, 1927, 41, 403-412.—The fact that human evolution is social rather than organic constitutes

its uniqueness in the animal world. Observation of complicated social behavior in lower animals are over-estimations due to anthropomorphism. The prolongation of the period of infancy, and hence of dependence, in humans has produced a social solidarity from generation to generation which, together with the plasticity of the slowly developing human cerebrum, has favored the acquisition of a social heritage.—*R. G. Sherwood* (Stillwater, Minn.).

2164. **Cook, O. F.** *American race problems (a review)*. *J. Hered.*, 1927, 18, 465-473.—Two books upon the negro are used as the point of departure for a discussion upon effects of crossing, origin and influence of slavery, and causes of race prejudice. The books are *Race Problems in the New Africa* by W. C. Willoughby and *The American Race Problem* by E. B. Reuter (1: 2242).—*B. S. Burks* (Stanford).

2165. **Darwin, L.** *Eliminating recessive defects*. *J. Hered.*, 1927, 18, 529.—Darwin comments upon a recent article by H. S. Jennings, which interprets an article by Punnett published in 1917 as showing that eugenic sterilization of the feeble-minded would make "almost no progress toward getting rid of feeble-mindedness for later generations." He then cites a 1922 paper by R. A. Fisher which takes issue with Punnett and shows that despite the long time it would take to stamp out feeble-mindedness altogether, mental defect could be reduced by over 17% through one generation of eugenic sterilization—more if assortative mating takes place. Fisher's 1922 article follows in full, reprinted from the *Eugenics Review*.—*B. S. Burks* (Stanford).

2166. **Frets, G. P.** *Erfelijkheid en eugenetiek*. (Heredity in eugenics.) *Nederl. Tijdschr. v. Geneesk.*, 1927, 71, 556-561.—A review.—Courtesy of *Eug. News*.)

2167. **Heilman, J. D.** *The relative influence upon educational achievement of some hereditary and environmental factors*. *27th Yrbk. Nat. Soc. Stud. Educ.*, Part II, 1928, 35-65.—Data were obtained as follows upon 828 Denver school children ranging in age from 10-1 to 10-10: Stanford-Binet mental age, educational age on Stanford Achievement, life age, socio-economic status of home on restandardization of the Chapman-Sims scale, total school attendance in days. Pupils with foreign parentage or incomplete school attendance records were excluded, but all others of the proper age were included in 48 schools chosen from districts of approximately average social status. Intercorrelations between items listed above were computed and corrected for attenuation; life age was partialled out, and the Wright path coefficient method applied to ascertain how much of variance in achievement is due respectively to intelligence, to school attendance, and to environmental factors associated with socio-economic status. The result is reached that probable upper limits of these contributions are: intelligence, 45%; school attendance, 5%; socio-economic status, 0.6%; combinations of the preceding factors, 14%; total of all three factors, 64%.—*B. S. Burks* (Stanford).

2168. **Kerr, R. B.** *Is Britain overpopulated?* London: Kerr, 1927. Pp. 118. 1/- net.—Great Britain and Ireland have a vast and inconveniently growing population. They have passed the zenith of their economic prosperity. Their resources are constantly dwindling. Most of the other countries in the world are more prosperous, but particularly America and perhaps one or two of the British colonies. It is fruitless to raise the cry "back to the land." There are only two things to be done if irretrievable disaster is to be avoided: one is the stimulation of emigration, and the other is the more extensive practice of birth-control.—*F. C. Bartlett* (Cambridge, England).

2169. **Knibbs, G. H.** *The fundamental elements of the problems of population and migration*. *Eug. Rev.*, 1928, 19, 265-289.—Speculations and facts upon population problems are presented under the following topics: (1) The growth of human populations; (2) factors affecting the rate of population growth; (3) conditions of the development of population; (4) actual rate of

population growth; (5) present density of populations; (6) possible population of the earth; (7) the question of migration; (8) inherent difficulties of solution. The author concludes that the great difficulty in finding a good solution of population questions arises from the fact that the peoples of the world are so diverse in the stages of their development, and in the nature and character of their measures of civilization.—*B. S. Burks* (Stanford).

2170. **Lina, P.** *Zur Kenntnis der Vererbung der totalen Farbenblindheit mit besonderer Berücksichtigung der in der Schweiz bis jetzt nachgewiesenen Fälle.* (On the inheritance of total color-blindness with special reference to the Swiss cases.) *Arch. der Julius Klaus-Stift.*, 1927, 2, 143-189.—An excess (3:2) of maleness in affected persons. A Mendelian recessive trait. Consanguinity common.—(Courtesy of *Eug. News*.)

2171. **Lundborg, H.** *Race biological aspects of some problems of population.* *Eug. Rev.*, 1928, 19, 290-293.—Argues for the point of view that "eugenically good human stock is an absolute necessity for the attainment of genuine, lasting culture."—*B. S. Burks* (Stanford).

2172. **Metcalf, M. M.** *Trends in evolution.* *J. Morph.*, 1928, 45, 1-47.—A discussion of the probability of more or less irregularly progressive trends in evolutionary developments as opposed to strictly fortuitous variations. Illustrations of sequences of change in subdivisions of the Opalinidae through the characteristics of flatness, elongation, posterior pointedness, delay in division of the body, and delay in completion of mitosis are given. The trends are discussed in terms of qualities resident in the germ plasm.—*H. R. Laslett* (Whitman).

2173. **Milles, B. L.** *The inheritance of human skeletal anomalies.* *J. Hered.*, 1928, 19, 28-46.—Literature is summarized and interpreted dealing with human anomalies of the following types: cleido-cranial dysostosis, depression of the obelion, hare-lip and cleft palate, dental defects, anomalies of the trunk, hip, and extremities, including brachydaetylism and polydaetylism. Family histories are assembled and Mendelian explanations offered based upon the proportions of affected offspring from generation to generation.—*B. S. Burks* (Stanford).

2174. **Nisot, M. T.** *La question eugénique dans les divers pays. Tome I.* (The eugenics question in various countries. Vol. I.) Brussels: van Campenhout, 1927. Pp. 513.—Historical review; Great Britain, United States, and France. In each country: institutions, publications, reasons for activity, means employed, birth control.—(Courtesy of *Eug. News*.)

2175. **Philipschenko, J. A.** *The Norwegian eugenic program.* *Eug. Rev.*, 1928, 19, 294-298.—At one of the meetings of the Eugenic Society of Leningrad the "Norwegian Program" worked out by Mjöen was discussed. Opinions were expressed upon negative race-hygiene (segregation and sterilization), positive race-hygiene, and prophylactic race-hygiene.—*B. S. Burks* (Stanford).

2176. **Phillips, J. C.** *Success and the birth-rate.* *Harvard Grad. Mag.*, 1927, 35, 565-570.—Men of the most successful group have a relatively larger number of children, on the average, than those of the less successful groups.—(Courtesy of *Eug. News*.)

2177. **Pokrowski, G. I.** *On a relation of the sun's activity to some biological factors.* *Science*, 1928, 67, 397.—Statistics from Russia for the entire nineteenth century show concomitant variations in the numbers of births, deaths and marriages and in the number of sun spots.—*G. J. Rich* (Institute for Juvenile Research).

2178. **Popenoe, P.** *Eugenic sterilization in California. 7. Fecundity of the insane.* *J. Hered.*, 1928, 19, 73-80.—One aspect of the author's extensive investigation of eugenic sterilization is considered in this paper. He finds that among persons sterilized in state hospitals for mental diseases the mean size of family is: married men 1.64 living children, married women 2.03; all men 0.61, all women 1.85. The fecundity of the unsterilized insane studied as controls is



even lower. Thus the insane do not wholly reproduce themselves. Most of the insane are born of parents who are not themselves insane, and the fecundity of these parents is slightly greater than that of insane parents. No significant differences are found between the sizes of families of sterilized women with the different types of psychoses. Women who had no near relatives insane had each about one-third of a living child more than those who had a family history of mental disease, but there was no demonstrated difference among the men.—*B. S. Burks* (Stanford).

2179. **Shaxby, J. H., & Bonnell, H. E.** On skin color. *Man*, 1928, 60-64.—Record experiments on the reflecting power of the human skin for about 270 subjects. The technique is clearly described. Light reflected from a patch of skin under standard conditions is compared with that reflected under the same conditions from an equal area of white matt standard. The subjects are European and negro. The reflection coefficient obtained is determined for white, green and red lights. No difference in type appears between the reflection of "white" and "colored" skins, negroes in this respect differing from Europeans only in the amount of melanin pigment in the skin.—*F. C. Bartlett* (Cambridge, England).

2180. **Siemens, H. W.** Eine prinzipiell wichtige Beobachtung über die Vererbung der Farbenblindheit. (A particularly important observation on the inheritance of color-blindness.) *Klin. Monatsbl. f. Augenhk.*, 1926, 76, 769-776.—The differences in manifestation in the origin of human hereditary defects play an unexpectedly large rôle.—(Courtesy of *Eug. News*.)

2181. **Steggerda, M.** Negro-white hybrids in Jamaica, B. W. I. *Eug. News.*, 1928, 13, 21-23.—A description is given of a project carried on in Jamaica whose object was "to determine the relative mental and physical capacities of the negroes, whites, and the crosses between the two." The numbers and types of individuals examined, and the tests administered, are outlined. No actual data are presented.—*B. S. Burks* (Stanford).

2182. **Tinkle, W. J.** Heredity of habitual wandering. *J. Hered.*, 1927, 18, 548-551.—This investigation of hereditary nomadism is based upon 150 families, 26 of which were studied by the author himself, and the remainder by Williams and by Davenport previously. The following conclusions are made: "1. The outstanding behavior of nomads consists of wandering which is (a) impulsive, (b) unreasonable, and (c) habitual. 2. Nomadism is a hereditary trait. 3. This trait appears to be due to an independent recessive factor, not correlated with intelligence."—*B. S. Burks* (Stanford).

2183. **Wheeler, W. M.** Emergent evolution and the development of societies. New York: Norton, 1928. Pp. 80. \$1.00.—Emergence is defined as a novelty in behavior which results from the specific interaction of a number of individuals when associated in a group, and which is not to be found in the behavior of any of the component individuals. The emergent need not be novel in its entirety, but may exhibit the novelty only in certain functional aspects. This view is shown to be perfectly compatible with experimental determinism, and the notions of entelechy, *élan vital*, deity, and so on, are specifically repudiated. Instead of deity being the emergent next following mind, the social group takes this place, and because of the continued production of criminals and defectives, the emergence of deity seems to be an exceedingly remote eventuality. Every living organism lives in some kind of social relationship with others, and as the emergent becomes more closely integrated it involves a greater and greater subordination, and even degeneration, on the part of the individual, in the interests of social solidarity and efficiency. A society has an ontogeny of its own, laws of its own, and an individuality of its own, and for this reason may fairly be classed as an emergent.—*D. L. Bidwell* (Ohio State).

[See also abstracts 2101, 2205, 2210, 2212, 2251, 2256, 2343.]

## SPECIAL MENTAL CONDITIONS

2184. **Adler, H. M., & Larson, J. A.** Deception and self-deception. *J. Abn. & Soc. Psychol.*, 1928, 22, 364-371.—Deception may be of two sorts, the attempted deceiving of another person, or the attempted deceiving of oneself. Both seem to be possible of achievement and each is distinguished by its own circumstances and its own difficulties. The present communication concerns itself in the main with deception of self. A modified Erlanger sphygmomanometer combined with a modified Jaquet and MacKenzie polygraph were used in securing a graphic record of heart and respiratory action while experimental psychic stimuli were given. Records secured in delinquency cases indicated clearly that the attempt to deceive another person is accompanied by corresponding changes in the pulse rate, blood pressure, and respiration. These changes do not recur in response to the stimulus question after confession. Cases of psychosis, especially with hallucinations and delusions, were limited. They seemed to warrant, however, the statement that hallucinations and delusions are true experiences and therefore carry with them a degree of conviction as to their reality which precludes the changes in blood pressure, pulse rate, or respiration which accompany conscious deception.—*C. H. Johnson* (Boston Psychopathic Hospital).

2185. **Bernfeld, S.** Einige spekulative Bemerkungen über die psychologische Bewertung telepathischer Prozesse. (Some speculative remarks on the psychological value of telepathic processes.) *Zsch. f. d. ges. Neur. u. Psychiat.*, 1927, 111, 49-58.—*W. Wirth* (Leipzig).

2186. **Burrow, T.** The social basis of consciousness. New York: Harcourt, Brace, 1927. Pp. xviii + 256. \$4.00.—The author here collects and presents in integrated form the various aspects of his theory of group psychoanalysis, placing it against a background consisting largely of a metaphysical theory of consciousness as a whole. The central fact from which this system appears to have evolved is the phenomenon sometimes known as counter-resistance, i.e., imperfect self-analysis by the analyst during the treatment. This and its consequences the author ascribes to an uncritical acceptance on the part of both patient and analyst of the "bidimensional" moral categories (right-wrong, good-bad, teacher-pupil, etc.) built into their personalities by the environing society—particularly by the parents as the first representatives of that society. The author envisages this as a serious limitation on psychoanalytic practice and theory, and pleads for the resolution of this "social neurosis." As means to such an end he recommends, and himself practices, the group technique, wherein the analyst and patients form a miniature replica of the larger society, which through mutual illumination of the reactions of its members endeavors to discover and resolve its own fixations.—*R. R. Willoughby* (Clark).

2187. **Fränkel, F., & Joel, E.** Beiträge zu einer experimenteller Psychopathologie. Der Haschischrausch. (Contributions to an experimental psychopathology. Hashish intoxication.) *Zsch. f. d. ges. Neur. u. Psychiat.*, 1927, 111, 84-106.—The aim of the authors is to give a characterization of the total mental attitude under the influence of the poison on which they announce a monograph.—*W. Wirth* (Leipzig).

2188. **Guttman, E.** Aktogramme als klinische Schlafkontrolle. (Actograms as clinical sleep controls.) *Zsch. f. d. ges. Neur. u. Psychiat.*, 1927, 111, 309-324.—The author employs the method of pneumatic registration, which goes back to experiments on animals. The movements of the mattress are registered by means of a rubber ball placed under it. Different types, especially the circular, are identified, and the influence of soporifics can be studied.—*W. Wirth* (Leipzig).

2189. **Häberlin, P.** Die Suggestion. (Suggestion.) Basel: Kober'sche Verh., 1927.—*W. S. Hunter* (Clark).

2190. **Haub, H. D. F.** Equipping the adolescent girl. *J. Soc. Hygiene*, 1928, 14, 147-153.—An experiment in the sex education of eighth grade girls is described.—*G. J. Rich* (Institute for Juvenile Research).

2191. **Haupt, J.** Die Feststellung der Hypnose. (The verification of hypnosis.) *Psychiat.-Neur. Woch.*, 1928, 30, 19-20.—The author points out that it is often difficult or even impossible to determine objectively whether a patient is in the hypnotic state, especially when the physician has to rely upon declarations made by the patient. A state of hypnosis should not be taken for granted when there is only a "slight" or a "certain" influence. The concept "hypnoid" should be avoided; this designation is the customary refuge of those who hesitate to confess that actual hypnosis was not present. A declaration of a non-specific drowsiness, or a feeling of heaviness, etc., does not justify the assumption of hypnosis.—*P. Plaut* (Berlin).

2192. **J., M.** Observacions experimentals a l'entorn del pan-sexualisme. (Experimental observations bearing on pan-sexualism.) *Criterion*, 1927, 3, 72-73.—*R. R. Willoughby* (Clark).

2193. **Kingman, R.** Fears and phobias. Part II. *Welfare Mag.*, 1928, 19, 303-308.—A number of common phobias are described. One universal fear lies at the root of all of them, the fear of death, for which they serve as compensatory mechanisms.—*G. J. Rich* (Institute for Juvenile Research).

2194. **Mitchell, T. W.** The phenomena of mediumistic trance. *Hibb. J.*, 1928, 26, 331-340.—Brief discussion of trance states and evidence making belief in survival and telepathy essential.—*M. Meenes* (Lehigh).

2195. **Moragas, J.** Freud i Dwelshauvers. (Freud and Dwelshauvers.) *Criterion*, 1927, 3, 212-214.—*R. R. Willoughby* (Clark).

2196. **Podach, E.** Körper, Temperament und Charakter. (Body, temperament and character.) Berlin: Ullstein, 1927.—*W. S. Hunter* (Clark).

2197. **Sowton, S. C. M., & Myers, C. S. (I).** Bedale, E. M. (II). Two contributions to the experimental study of the menstrual cycle. I. Its influence on mental and muscular efficiency. II. Its relation to general functional efficiency. *Rep. Indus. Fatigue Res. Board*, No. 45. London: H. M. Stationery Office, 1928. Pp. iv + 68. 2/6 net.—The first of these reports gives an account of the results of a prolonged series of carefully controlled tests of a psychophysiological order. The tests used were: two forms of number checking test, a spacing test and a dotting test. The method is fully described and the results are given in detail. Two groups of subjects were tested daily over a period of from four to six months: a group of university women, thirteen in number, and a group of sixteen women employed in a scientific instrument works. Each subject recorded her daily condition of health. Results from seven subjects had to be discarded for various reasons. Of those remaining (a) five showed no alteration in performance at the menstrual periods; (b) nine showed worse performance at these times or just before them; (c) four showed a better performance; (d) four showed a better or worse performance according to their stage of familiarity with the tests. Of those in the (a) group four belonged to the class of university students and one to the working girl class. It is suggested that social status may play some part in determining the effect of menstruation upon efficiency. A study of the (c) group suggests that increased efficiency during a menstrual period may pertain to highly strung subjects of good physique. Psychological causes are assigned for this. Lowering of efficiency during a menstrual period was not in general greater than that occurring at other times. The influence of the menstrual period upon efficiency may be evident during the post-menstrual and especially during the pre-menstrual period. Consistently scores in the number checking test appeared to depend upon the pleasure or displeasure derived from the particular manner in which a subject was directed to mark particular figures. The second report records a careful intensive study of a single subject

over a controlled period of three months. There was a periodic heightening of functional activity above the average late in the inter-menstrual phase of the monthly cycle, and a corresponding reduction below the average shortly before or at the onset of menstruation. This held of temperature, basal metabolism and vital capacity, for muscular tone and for physical and psychological capacity for maximally rapid muscular work. Respiration, blood pressure and pulse-rates as influenced by work showed the same kind of variability. It is concluded that "there seems no reason to think that the fundamental physiological rhythm in women is such as to affect, either considerably or constantly, the quantity or quality of their industrial work, provided always that no pathological conditions are present." An appendix contains a review of previous work on this subject.—*F. C. Bartlett* (Cambridge, England).

2198. **Tamm, A. Motstånden mot psykoanalysen.** (The opposition to psychoanalysis.) *Ark. f. psykol. o. ped.*, 1928, 7, 80-90.—Agreeing almost entirely with Freud's statements in his work *Die Widerstände gegen die Psychoanalyse*, marshalling in support of Freud the philosophers (Leibniz, von Hartman, Nietzsche, Schopenhauer, Höfding and others) who within their systems have reference to an unconscious, and referring to the actual statements of psychoanalysts in the leading cultural countries today, the writer advocates a more thorough study and appreciation of psychoanalysis by both medical men and philosophers of the North. Bumke's attack on psychoanalysis in his *Das Unterbewusstsein* is critically considered, and so is the work of Poul Bjerre, *Vägen till och från Freud* (The Way to and from Freud), in which the author accuses Freud of crime against the holy spirit of science, alleging that Freud builds empirical research upon a presupposition of an unprovable nature. Various general and specific reasons for resistance to Freudian analysis are suggested and discussed and the writer offers her personal psychoanalytical explanation for the apparent intense dislike of "Freudianism" existing in Sweden.—*M. L. Reymert* (Wittenberg).

2199. **Tusquets, J. La individuació humana.** (Human individuality.) *Criterion*, 1927, 3, 74-75.—*R. R. Willoughby* (Clark).

2200. **Young, P. G. The nature of hypnosis: as indicated by the presence or absence of post-hypnotic amnesia and rapport.** *J. Abn. & Soc. Psychol.*, 1928, 22, 372-382.—The experiments were planned for the purpose of testing the essentiality of rapport in somnambulism. The results show that in the case of three somnambulist subjects post-hypnotic amnesia, as well as rapport, can be greatly modified or eliminated without destroying the hypnotic state. It now seems that the presence or absence of post-hypnotic amnesia depends on the overt or tacit autosuggestions of the subject and not on the depth of the hypnosis as such. Post-hypnotic memory may exist at the subject's prior autosuggestion, in spite of the operator's explicit hypnotic command to forget. The experiments help to substantiate the theory that the essential element in hypnosis is the autosuggestion of the subject, rather than the heterosuggestion of the operator. Heterosuggestion is effective only because, and insofar as, the subject has overtly or tacitly given himself the autosuggestion that what the hypnotist says will take place. This autosuggestion may be in the form of belief in the power of the operator; it will more likely be in the form of willingness to coöperate with him.—*C. H. Johnson* (Boston Psychopathic Hospital).

2201. **Ziegler, H. W. Typische Persönlichkeitsentwicklungen. I. Friedrich Schlegels Jugendentwicklung.** (Types of personality-development. I. Friedrich Schlegel's youthful development.) *Arch. f. d. ges. Psychol.*, 1927, 60, 1-128.—It is the author's purpose to illuminate the psychological background of the "romantic" philosophy of education and of personality, through a study of the life-history of a leading figure in the romantic movement. Such a study is of especial interest inasmuch as the contemporary "youth movement" derives ideas



from the romantic movement, and is a psychologically similar phenomenon.—*D. McL. Purdy* (California).

[See also abstracts 2130, 2150, 2255, 2279, 2348.]

## NERVOUS AND MENTAL DISORDERS

2202. **Adler, H. A., & Mohr, G. J.** Some considerations of physical constitution in relation to mental disorders. *J. Amer. Psychiat.*, 1928, 7, 701-707.—Among normal and psychotic patients various physical forms may be recognized that correspond to Kretschmer's "types." There is evidence that these forms in no sense constitute "types" but that there is a normal distribution of physical characteristics that vary from those that define the asthenic to those of the pyknic build. Significant differences in performance of tests of intelligence, of attention, and of the formation of new associations, by groups that conform to the "type" criteria, are demonstrable. The asthenic build is associated with the schizothymic temperament, and there seems to be a relationship between the pyknic build and manic-depressive psychoses. In the psychiatric categories there is a normal distribution of qualities common to all members of the group, and also there are characteristics not common to the group but belonging to certain individuals.—*B. Kendall* (Boston Psychopathic Hospital).

2203. **Bänziger, H.** Die Frage der Schizophrenie bei einem Mitglied der Sekte Anton Unternährers. (The question of schizophrenia in a member of the sect of Anton Unternährer.) *Zsch. f. d. ges. Neur. u. Psychiat.*, 1927, 110, 627-694.—The investigation, suggested by H. W. Mayer, gave no evidence of a progressive mental disease process, but led to the assumption that the disagreeable symptoms were the reaction of a debilitated psychopath to an inner tension and to external difficulties connected with the superstitions of the sect and earlier life experiences. The symptoms have diminished during three years of confinement.—*W. Wirth* (Leipzig).

2204. **Bellis, G. L.** Medical, general and social considerations, with some historical reminiscences. *Occup. Therap. & Rehab.*, 1928, 7, 89-93.—Rest is fundamental in the treatment of tuberculosis, but in the ordinary form it does not produce the proper mental state. Occupational therapy helps in this respect by providing light work which will occupy the individual's attention and lead him to the proper mental rest.—*H. E. Burt* (Ohio State).

2205. **Bostock, J.** Mental deficiency: causes and characteristics. *Med. J. Australia*, 1927, 14, 325-328.—Some discussion of heredity.—(Courtesy of *Eug. News*.)

2206. **Bramwell, E.** The upward movement of the eyes. *Brain*, 1928, 51, 1-17.—The author discusses observations on the upward movement of the eyes as a normal and as a pathological phenomenon, and notes particularly its presence as a symptom in certain cases of encephalitic parkinsonism. Reference is made to the questions of neurological mechanism and pathology.—*E. N. Brush* (Boston Psychopathic Hospital).

2207. **Brousseau, K., & Brainerd, H. G.** Mongolism: a study of the physical and mental characteristics of Mongolian imbeciles. Baltimore: Williams & Wilkins, 1928. Pp. viii + 210. \$4.50.—This book contains a review of the literature on mongolism and a careful analysis of 429 of the authors' own cases. The current etiological theories are all considered: alcoholism was present in the families of 18.69% of the cases, syphilis in 7.66%, tuberculosis in 19.5%, consanguinity in 0.46%, morbid neuropathic heredity in 25.7% (in 429 unselected cases at the Sonoma State Home this was present in 41.3%). Of the 429 mongols the greater number were born to mothers between 35 and 44 years of age (however, 5.3% were under 21). Of the mothers 35 years or older, 17% had healthy children after the birth of the mongols. The age of the father did not appear to be a

factor. In 800 cases the mongol was the first born in 24.37%; in 57.6% the last born. 37 instances of mongolism in twins are recorded. In 32 cases, one twin was normal, in 5 instances (all of the same sex) both were mongols. 18 instances are recorded in which a mother bore more than one mongolian child. There follows a very careful analysis of the physical stigmata of mongolism. Oblliquity of the palpebral fissure and the epicanthic fold are rarely found to be absent; strabismus and nystagmus are frequent; brachycephaly is present in 94.1%; the ears are generally malformed (frequently they resemble those of a chimpanzee); the fissured tongue, with its hypertrophied papillæ, is found in nearly all cases; the palate is usually high. Congenital heart defects are present in a large number of cases. The genitalia are poorly developed, the hands are stubby, the thumbs and little finger being very short, the muscles are hypotonic and movements show an awkward ataxia in most cases. Mongol idiots do not show the marked insensibility to pain or perversion of that sense which is a very noticeable characteristic of many imbeciles and idiots. They are very sensitive to heat and cold. Weight discrimination is very poor. The intelligence quotients of 206 cases are analyzed. Those with a mental age of less than three were examined by the Kuhlmann system, and those with three or more, by the "Binet Simon" tests (apparently Stanford revision). No mongol was found in this group with a mental age of more than seven. Only two could be placed in the moron group (one with an I.Q. of 66 and the other 54); 61.1% were found to be in the imbecile group; and 37.8% were idiots. The mental characteristics of the group are not found to differ in any marked degree from those of feeble-minded children of other types. Deficient attention is a noticeable peculiarity of mongol children. Certain stimuli attract and hold their attention; these are musical sounds, and more particularly those sounds which have a decided rhythm. A marked tendency and talent for mimicry is found in mongols. They are with very few exceptions placid, affectionate and good humored. Their sexual instinct appears diminished, if not altogether lacking in both sexes. But two cases (both girls) are reported in whom the desire for the other sex seemed present. Masturbation is reported in several cases. One case in the group showed the waxy flexibility generally associated with catatonia. The average age at death has been found to be 14½ years, in an English group. The oldest recorded mongol was 57. They are found to age very rapidly. Most of their deaths are due to respiratory infections. A short discussion of therapy concludes the book.—*M. S. Guttmacher* (Boston Psychopathic Hospital).

2208. **Brown, S., 2d.** *Specialism within the field of psychiatry.* *Psychiat. Quar.*, 1928, 2, 5-12.—Within the past 10 or 15 years we have been entering upon a new phase of psychiatry, that of practice outside of institutions. Attention is now being directed towards psychiatric problems in the community. Preventive work with children, psychiatric work in connection with the personnel in large industrial and business concerns, the psychiatric examination and study of prisoners, are fields into which the psychiatrist is frequently drawn. Psychiatrists are showing increasing interest too in the problem of the mental defective, in the study of epilepsy, and in the biological investigation of mental cases. Less desirable types of specialism are revealed in the tendency to specialize in certain forms of treatment which are often supposed to apply to all forms of mental disturbance.—*E. Burr* (Vocational Adjustment Bureau).

2209. **Bürger, H.** *Gedankenentzug, Sperrung, Reihung. Zum Problem der schizophhren Denkstörungen.* (Flight of ideas, block, "turning." On the problem of schizophrenic thought disturbances.) *Zsch. f. d. ges. Neur. u. Psychiat.*, 1927, 111, 107-140.—*W. Wirth* (Leipzig).

2210. **Campbell, K. J.** *Is insanity an inheritance?* *Welfare Mag.*, 1928, 19, 357-362.—The records of 1139 patients committed to a state institution indicate that insanity is inheritable and that the progeny left by the patients is of a suffi-

cient number to make a problem for the future generation.—*G. J. Rich* (Institute for Juvenile Research).

2211. **Carr, B. W.** *Occupational therapy in the Veterans' Bureau.* *Occup. Therap. & Rehab.*, 1928, 7, 79-82.—The Veterans' Bureau was established in 1921 and the next year took over the Veterans' Hospitals from the Public Health Service. Prevocational training was thus under the control of medical officers and was placed on a prescription basis under the head of Occupational Therapy. The big problem after the war was to provide therapy of a diversional character. Volunteer aides contributed largely to this work. Whenever possible therapeutic work was of practical nature. At present the Bureau is still operating fifty hospitals.—*H. E. Burt* (Ohio State).

2212. **Chown, G.** *A case of mongolian idiocy occurring in one of male twins.* *Canadian Med. Asso. J.*, 1927, 17, 943-944.—First children in the family. The mongolian twin born two days later than its brother.—(Courtesy of *Eug. News*.)

2213. **Coe, A. M.** *Occupational therapy in a general hospital.* *Occup. Therap. & Rehab.*, 1928, 7, 83-87.—Occupational therapy functions as a prevocational measure and in restoring the patients' faith in themselves. They not only forget their worries but frequently discover aptitudes for some craft which they did not realize that they had. Quite a number of cases have developed vocational skill which they use in getting a good job subsequently. Weaving is especially good for the restless and irritable patients, reed and basket work exercises stiffened fingers and hands, leather work practices wrist movements and carpentry uses numerous muscles.—*H. E. Burt* (Ohio State).

2214. **Dayton, N. A.** *Survey of retarded children in public schools in Massachusetts.* *Amer. J. Psychiat.*, 1928, 7, 809-835.—A study of the records of 3553 school clinic examinations reveals that feeble-mindedness is present in one or both parents in approximately 7% of the cases, mental disease in approximately 3%, and epilepsy in 1%. Approximately 72% of the children examined were feeble-minded; 60% were unsuccessful in their attempts to pass the first grade in school. There is little difference in the order of birth of these retarded children and children in the general population. Physical defects were very common. Height and weight revealed but little variation from accepted averages in the general child population. 458 cases having two examinations at a mean interval of one and one-half years show an increase in the mean mental age from seven years to eight years; during this period the mean intelligence quotient decreased from .76 to .73.—*B. Kendall* (Boston Psychopathic Hospital).

2215. **Draper, G.** *Disease: A pysomatic reaction.* *J. Amer. Med. Asso.*, 1928, 90, 1281-1285.—Man is a pysome, or mind-body, and all his reactions to environment are pysomatic. The human organism includes not only those elements which are clearly mechanistic but many which are spiritual and imponderable, the psychic forces. In the practice of medicine, somatic and psychic factors in disease are found to be interacting with one another. Study of human constitutions has demonstrated two main attributes of any individual which determine his disease potentiality: the obvious hereditary faults, or "tissue defects," and the affective emotional reaction pattern with its various relationships at the psychophysiologic border. Many therapeutic failures result from neglect of the emotional factors.—*G. J. Rich* (Institute for Juvenile Research).

2216. **Elkind, H. B., & Doering, C. R.** *The application of statistical method to the study of mental disease.* *Amer. J. Psychiat.*, 1928, 7, 789-808.—The methods and principles of statistical study of mental disease are discussed. By means of a four-fold table derived from the study of 474 cases it is shown that the distribution of delusions or their absence among those of normal or abnormal personality is, so far as the figures go, merely a matter of chance without association. By means of manifold tables derived from the study of 285 cases of schizophrenia

and of 261 cases of affective disorders, it appears that schizophrenics are more subject to delusions than patients with affective disorders: a positive association appears between affective disorders and no delusions, and a negative association between schizophrenia and no delusions. There is a positive association between schizophrenia and each separate delusion. There is a positive association between the schizophrenic group and grandiose delusions, and a negative association between affective disorders and the grandiose delusions. Since the schizophrenic group studied has a larger proportion of males than of females, and the affective group a larger one of females, it is possible that one sex presents more delusions than the other. From another tabulation the conclusion is reached that possibly females are not prone to have grandiose delusions.—*B. Kendall* (Boston Psychopathic Hospital).

2217. **Gibbs, C. E.** Value of constitution study in mental defect and disease. *Psychiat. Quar.*, 1928, 2, 49-58.—For several years there has been developing a new and widespread interest in the old question of the relation of constitution to disease. By making use of knowledge now available as to the significance of normal and abnormal development it should be possible to make measurements and other observations which are capable of useful interpretations. The most logical first step to this end is to establish close relationships between physical make-up and function on the one hand and mental make-up and behavior on the other. Interest lies in the significance rather than in the fact of physical types and abnormalities of individual parts, and the only real value in explaining mental defect and disease will come from an understanding of their biological and pathological significance. Leaving aside the pathological types (the dwarfs, cretins, giants, etc.), the best opinion seems to be that there are only two well-defined human types, the tall, slender type and the short, thick type. When it is attempted to classify patients according to physical type, however, many fail to fit into either one. So, though it is possible to recognize fairly definite physical types and find that they are closely associated with several different diseases, not enough is known about the meaning of the type, or the disease, or both, to understand the relationship between them. Classifying and describing the end results of clinical studies is not sufficient. The entire process of normal brain growth needs to be studied, and abnormal development compared with it. From a study of all of the defects of development which the patient presents, and their possible causes, some ideas may be gained as to the causes of imperfect brain development. The study must be made, however, in terms of the processes which have produced the physical make-up and the physical defects.—*E. Burr* (Vocational Adjustment Bureau).

2218. **Henssge, —.** Paralysis agitans und Trauma. (Paralysis agitans and trauma.) *Zsch. f. d. ges. Neur. u. Psychiat.*, 1927, 110.—(From the Sommer clinic.) The traumatically conditioned cases frequently begin with psychogenic phenomena. Records of the tremor curve are important, since they make it possible to anticipate the outbreak of the paralysis agitans.—*W. Wirth* (Leipzig).

2219. **Hill, L. B.** An experiment in clinical affiliation for occupational therapy students in a mental hospital. Preliminary report. *Occup. Therap. & Rehab.*, 1928, 7, 107-113.—*H. E. Burt* (Ohio State).

2220. **Hinrichsen, O.** Gedichte eines Schizophrenen. (Poems of a schizophrenic.) *Zsch. f. d. ges. Neur. u. Psychiat.*, 1927, 111, 24-48.—10 volumes of the patient's poems have appeared and received literary notice. The author knows 5. The basic experience presented is a schizophrenic disturbance of the ego.—*W. Wirth* (Leipzig).

2221. **Hinrichsen, O.** Die Stellungnahme des Schizophrenen zu seiner Krankheit. (The attitude of the schizophrenic toward his disease.) *Zsch. f. d. ges. Neur. u. Psychiat.*, 1927, 111, 59-83.—*W. Wirth* (Leipzig).



2222. **Jackson, J. A., & Pike, H. V.** Results of scientific treatment of mental diseases. *Med. J. & Rec.*, 1928, 8, 434-436.—Of 751 admissions to the Danville State Hospital during 1926 nearly 50% have been discharged as recovered or improved sufficiently to be under family supervision. About half of the cases admitted were bad risks, while about one-third are in terminal stages of physical disease. The normal expectation is that 40% of all cases will be discharged, and that 15-20% of unfavorable cases will improve enough to return home. The most resistful cases are those classes called senile, cerebral arteriosclerotic, neurosyphilitic, organic lesion of brain and cord, epileptic, and mentally deficient.—*R. C. Givler* (Tufts).

2223. **Jistin, S. G.** Über die schizoiden und syntonen Alkoholiker. (Schizoid and synton alcoholic.) *Zsch. f. d. ges. Neur. u. Psychiat.*, 1927, 110, 750-766.—In the differentiation of the sytonic type (Kretschmer), i.e., of the agreeable boon companion, the schizoid, nervous type with a disposition toward schizophrenia, as well as the schizophrenic, shows a tendency to auditory hallucinations.—*W. Wirth* (Leipzig).

2224. **Kaldeweg, K.** Zur Frage episodischen Dämmerzustände in Beziehung zu manisch-depressiven und epileptischen Formenkrisen. (The problem of episodic stuporous conditions in relation to the manic-depressive and epileptic forms of crises.) *Zsch. f. d. ges. Neur. u. Psychiat.*, 1927, 110, 113-147.—Episodic stuporous conditions are not to be looked upon as independent kinds of disease, but only as very striking forms of expression of different constellations which arise from constitution, psychic conditions, and also perhaps external causes releasing strong emotions (alcohol). They are predominantly cyclothymic psychoses. The disposition may remain latent until the moment of the exciting cause. The relations to epilepsy are very close.—*W. Wirth* (Leipzig).

2225. **Kennedy, M.** Man, a psycho-physical being. *Welfare Mag.*, 1928, 19, 363-366.—The nurse has a special opportunity in mental hygiene because of the intimate relation she bears to the patient. The modern recognition of the importance of mental disease has led to a development of the field of psychiatric nursing.—*G. J. Rich* (Institute for Juvenile Research).

2226. **Kroll, M.** Über Tonusreflexe bei Nervenkranken. III. Mitteilung: Über die Bedeutung der Schädigungen des frontocerebellaren Systems für das Auftreten der Magnus'schen Reflexe. (On tonic reflexes in nervous diseases. Third communication: On the significance of injuries to the fronto-cerebellar system for the appearance of the Magnus reflexes.) *Zsch. f. d. ges. Neur. u. Psychiat.*, 1927, 110, 729-749.—*W. Wirth* (Leipzig).

2227. **Küffner, W.** Epilepsie und Alkohol. (Epilepsy and alcohol.) *Zsch. f. d. ges. Neur. u. Psychiat.*, 1927, 111, 145-158.—The author does not want to underrate the injury due to the misuse of alcohol, but to combat the notion that the suppression of the use of alcohol will empty the insane asylums, especially the homes for epileptics.—*W. Wirth* (Leipzig).

2228. **Lentz, A. K.** Über embryonale Stellungen bei Geisteskranken. (Embryonic positions in mental disease.) *Zsch. f. d. ges. Neur. u. Psychiat.*, 1927, 111, 17-23.—These positions, which appear in catatonia, epileptic dementia, and other conditions of depression, are construed as regression through loss of the inhibition of primitive automatic brain centers.—*W. Wirth* (Leipzig).

2229. **Lunt, L. K.** Occupational therapy at the Austen Riggs Foundation. *Occup. Therap. & Rehab.*, 1928, 7, 99-105.—Practically all of the occupational therapy involves carpentry and loom work. With the type of patient involved it is found that in these two classes can be found a sufficiently wide range of projects to care for individual needs. It seems that there is a more coherent group spirit in the shop when patients are working on somewhat similar projects than when they work on a wide variety. The main function of occupational therapy in this case is to keep up morale.—*H. E. Burt* (Ohio State).

2230. Mönkemöller, —. *Über Psychopathenfürsorge.* (The care of psychopaths.) *Psychiat.-Neur. Woch.*, 1927, No. 41, 457-462; No. 42, 469-473; No. 43, 479-482.—W. Wirth (Leipzig).

2231. Naményi, L. *A majomemberről.* (The ape-man.) *Magyar gyógy-paedagógia*, 1927, 15, 158-160.—In an amphitheater at the Volksgarten a so-called "ape-man" was placed on exhibition for an entrance fee, but the police confined him in the state institution for mental and nervous diseases at Budapest (*Angyalföld*). The patient is 34 years old, male, the sixth of 14 children, said to be without hereditary taint. Until the age of three, epileptic fits. Learned to walk at three years. Has not learned to speak. Until the 15th year, had to be fed, and later had to be bound to prevent him from running away. Height 168 cm.; weight 52 kg. Cranial capacity 1244 (instead of 1520) cm<sup>3</sup>, which classes him as oligocephalic. Skin wrinkled, with incomplete pilosity. Has had no sexual intercourse. Mentality: idiot of the lowest grade. No understanding of speech. Utters only infrequent animal sounds, a kind of grunting or growling, especially when someone approaches him or handles him. The only reactions are those of hunger, pain and fear. He smells everything, eats everything, and steals all food from his room-mates. His walk is stiff and awkward, with knees bent. In sleep he moves away from the bolster. The author believes the patient is a mongolian idiot, arising as a degenerate throwback according to the theory of Crookshank.—P. Ranschburg (Budapest).

2232. Orton, S. T. *Specific reading disability—strephosymbolia.* *J. Amer. Med. Asso.*, 1928, 90, 1095-1099.—Specific disability in reading, the so-called congenital word blindness, can be shown to be unassociated with subnormal intelligence. There is no evidence that it is due to a local brain defect. Children with this disability have difficulty in differentiating *p* and *q* and *b* and *d*, have a striking tendency to confuse palindromic words like *was* and *saw* and to reverse paired letters and syllables, show a considerable capacity for reading from a mirror, and evidence facility in producing mirror writing. The condition is believed to be a physiological variant due to the persistence of the activity of the non-dominant cerebral hemisphere and is called strephosymbolia. It forms a clear-cut clinical entity which can be diagnosed by appropriate examination methods. Proper instruction, which includes directional kinaesthetic training, offers a very good prognosis.—G. J. Rich (Institute for Juvenile Research).

2233. Parker, H. L. *Trigeminal neuralgic pain associated with multiple sclerosis.* *Brain*, 1928, 51, 46-62.—Patients suffering from multiple sclerosis may experience trigeminal neuralgic pain. While this symptom is comparatively rare in the disease, when present it may dominate the subjective clinical picture and may occur early. The pain may resemble closely the type complained of in cases of major trigeminal neuralgia. Four case studies are presented, with the findings at necropsy in one case.—E. N. Brush (Boston Psychopathic Hospital).

2234. Prengowski, P. *Zur Frage der sogenannte Menstruationspsychosen.* (On the question of the so-called menstruation psychoses.) *Psychiat.-Neur. Woch.*, 1927, No. 52, 571.—The author describes ten cases. Seven of these, having a diminution of the periods, exhibited cyclic mental disturbances of hypomanic to delirious type, and were improved or cured by agomensin. The other three cases, having an augmentation of the periods, exhibited stupor, and were successfully treated with sistomensin. The author supposes, with A. Hauptmann, that disturbances of the endocrine function of the ovaries produce an immediate effect in a certain part of the cases; these cases therefore are not relieved, as Jolly's psychoses are, by the "normal" process of menstruation.—W. Wirth (Leipzig).

2235. Revelle, T. P. *The young offender.* *Welfare Mag.*, 1928, 19, 314-318.—The problem of the youthful offender requires for its solution more thorough study of the individual and his environment than is usually given. Probation is a promising method of procedure only when adequately supervised.—G. J. Rich (Institute for Juvenile Research).

2236. Robeson, H. A., & others. **Analysis of crafts; continuation of the report of the Committee on Installations and Advice.** *Occup. Therap. & Rehab.*, 1928, 7, 131-136.—This is a continuation of the previous report, giving the technique and mental and physical processes involved in various crafts and specifying the types of patients for which they are suitable. This section includes tied and dyed work and knotting. (See II: 1910.)—H. E. Burt (Ohio State).

2237. Rocheleau, C. **Hors de sa prison.** (Out of her prison.) Montreal: Arbour & Dupont, 1927. Pp. 270.—A record of the life of Ludivine Lachance, who became deaf, dumb, and blind after an attack of meningitis in infancy. A large part of the book is given over to a description of the work done at the Montreal Institution for Deaf Mutes, which took charge of the unfortunate girl when she was 16. Here, under the patient and constant guidance of the nuns, the patient changed from an apathetic, animal-like individual to one who, before her death at 23, could speak with signs, could work with her hands, could walk with comparative ease, and could discriminate between many things in an intelligent way. The viewpoint is probably more religious than psychological.—M. Goodrie (Clark).

2238. Sands, I. F. **When is occupation curative?** *Occup. Therap. & Rehab.*, 1928, 7, 115-121.—There is a danger in occupational therapy of emphasizing the importance of producing an attractive piece of work at the expense of its curative value. If a patient is really skilled in some line of craft work there is often hesitation in transferring him to some other less interesting and less attractive work which has greater curative value. The work must, of course, interest the patient. The occupational therapy department seems to be the only agency in the hospital which can consistently carry out a morale program and at the same time help physical restoration. The willingness to be an invalid is a tendency that often develops and may be offset by directing the interests into other channels, particularly occupational. Each individual, however, is a separate problem.—H. E. Burt (Ohio State).

2239. Schilder, P., & Weissmann, M. **Aetherisierung Geisteskranker.** (Etherizing the mentally diseased.) *Zsch. f. d. ges. Neur. u. Psychiat.*, 1927, 110, 779-792.—The condition of heightened approachability and emotional responsiveness immediately after narcosis makes possible diagnostically the uncovering of forgotten material and allows it to be used therapeutically. The Claude-Robin differential diagnosis between schizophrenia and dementia praecox is untenable. Nystagmus, muscular tension and clonic movements are employed.—W. Wirth (Leipzig).

2240. Schilder, P., & Weissmann, M. **Amentie Psychose bei Hypophysengangtumor.** (Psychotic amentia in tumor of the hypophyseal canal.) *Zsch. f. d. ges. Neur. u. Psychiat.*, 1927, 110, 767-778.—The symptoms of the case reported differ very widely from the lethargy known in other cases of the type of genuine amentia. Hallucinations with anxiety and loss of inhibitions were present. There is a close relationship between disturbances of consciousness and of tonus (giddiness). Literature.—W. Wirth (Leipzig).

2241. Sheehan, R. F. **Epidemic encephalitis.** *Psychiat. Quar.*, 1928, 2, 71-77.—E. Burr (Vocational Adjustment Bureau).

2242. Sheehan, W. T. **Convulsions in infancy and their relationship, if any, to a subsequent epilepsy.** *Psychiat. Quar.*, 1928, 2, 27-41.—Great divergence of opinion among many authorities is apparent as to whether or not any relationship exists between convulsions in infancy and early childhood and convulsive disorders in the adolescent or adult. Some contend that all convulsive attacks, especially those occurring singly and during infancy without apparent adequate cause, are essentially epileptic, and that their continuance in after life depends upon predisposition and treatment. Among the causes of epilepsy, the occurrence of malnutrition and infection during the early life of the child is mentioned

and it is urged that dietary errors be avoided. An excellent bibliography is appended.—*E. Burr* (Vocational Adjustment Bureau).

2243. **Sullivan, H. S.** *Tentative criteria of malignancy in schizophrenia.* *Amer. J. Psychiat.*, 1928, 7, 759-787.—Outcome under treatment in schizophrenia depends largely upon two major factors: (1) the nature and organization of previous experience, and (2) the facilitation or the reverse toward new experience. If the individual has come through the socio-psychological experience of adolescence as a "normally" oral-erotic personality, his prognosis in schizophrenia is relatively very good; if he is "abnormally" oral-erotic, it continues to be good; but if he is anal-erotic, the difficulties of successful readjustment are much greater. Thoroughgoing efforts should be directed toward salvaging the younger oral-type patients; a considerable percentage of recoveries may be looked forward to among them.—*B. Kendall* (Boston Psychopathic Hospital).

2244. **Veit, H.** *Der Parkinsonismus nach Encephalitis epidemica im Rohrschach'schen Fundamentalversuch.* (Parkinsonism after epidemic encephalitis in the Rohrschach test of fundamentals.) *Zsch. f. d. ges. Neur. u. Psychiat.*, 1927, 110, 301-324.—The work is the preliminary report of a long series of investigations in which a decision is reached between the two points of view in regard to the nature of the disease (central motor disturbances only or deeper psychic changes also) in favor of the latter (decrease of spontaneous mental activity, especially in the so-called "fixed type").—*W. Wirth* (Leipzig).

2245. **White, W. A.** *Psychiatry and the social sciences.* *Amer. J. Psychiat.*, 1928, 7, 729-747.—The social sciences have proceeded in the past largely without a knowledge of the individual because psychology has only lately come to be recognized as a biological science. The study of the individual by the psychiatrist and of society by the sociologist presents problems that lie in different dimensions though not necessarily dealing with different forces. The social sciences would benefit by an alliance with psychiatry, and psychiatry itself would benefit. The psychiatrist looks upon society as infinitely complex because made up of a variety of groups of people with similar types of personality make-up and reaction potentials; and he would stress these reaction types as being of value in the illumination of the several branches of social science. He has something concrete to offer in dealing with the dependent, defective, and delinquent classes, and with such social problems as marriage, legislation, alcoholism, war and peace, religion, free speech and censorship, the matter of personal leadership, etc. Although the psychiatrist has not within his grasp the solution of all social problems, he may play a part in their solution similar in importance to that of the histopathologist in general medicine.—*B. Kendall* (Boston Psychopathic Hospital).

2246. **Wile, I. S., & Orgel, S. Z.** *A genetic study of mongolism.* *Med. J. & Rec.*, 1928, 8, 431-434.—Investigation upon 25 mongols at the Mt. Sinai Hospital failed to account for mongolian characteristics among white and black patients on an endocrinological basis, as a result of biological exhaustion, age of either parent at time of conception, inheritance, consanguinity of parents, tuberculosis, syphilis, alcoholism, or arrest of fetal development. The theories of Crookshank, Unger, Hunter, Davenport, Goddard and others are regarded as inadequate. "The genetics of mongolism continue to be a problem for research."—*R. C. Givler* (Tufts).

2247. **Williams, F. E.** *Psychiatry and its relation to the teaching of medicine.* *Amer. J. Psychiat.*, 1928, 7, 689-700.—If the needs of the average practicing physician are considered, a course in the simpler emotional reactions and the development of the emotional life seems basic in all medical training; it should be given in the first or second year of the medical school course, and might be of greater value than the usual courses in formal psychiatry. Although the number of his patients who suffer from neuroses or who magnify or prolong the



duration of physical illness through neurotic reactions is larger than of those actually suffering from physical illness, the average practicing physician has never been taught to understand or to treat the neuroses; knowledge of the behavior reactions of a patient free from psychosis but ill of a physical disease, knowledge of temper tantrums, anxieties, fears, etc., are necessary to him and considerably more important than a knowledge of mental diseases. A course dealing with such material should serve as a foundation for a more elaborate study of the neuroses and psychoses in the clinical years.—*B. Kendall* (Boston Psychopathic Hospital).

2248. **Wilson, S. A. K.** *The narcolepsies.* *Brain*, 1928, **51**, 63-109.—This is a rather comprehensive treatment of the group of disorders which the writer terms "the narcolepsies." Terminology and classification are discussed with special reference to the literature. Cases observed by the writer are presented, and in drawing up a classification further illustrations are cited. Clinical symptoms, the relation of narcolepsy to other clinical syndromes, and questions of etiology and pathology are considered. The experimental work bearing on the sleep centers and localization comes in for a review. In attacking the problem of pathogenesis greater importance is attached to the toneless, powerless, motionless awareness than to actual sleep.—*E. N. Brush* (Boston Psychopathic Hospital).

2249. **Ziegler, L. H., & Prout, C. T.** *Neuropsychiatric aspects of lipodystrophic disturbances.* *Amer. J. Psychiat.*, 1928, **7**, 709-714.—82 reports of cases of lipodystrophy were reviewed: 15 patients were markedly self-conscious about changes in their appearance; in 17 cases the family and friends were worried about the patient's health; in 8 nervous and mental symptoms were rather marked; in 43 no abnormality of behavior was noted. Psychiatric symptoms when present seemed to be psychoneurotic. No constant neurological symptoms or signs were observed, and no psychiatric symptom-complex—aside from self-consciousness and the tendency to share in the alarm of friends and relatives. No conclusive evidence has been collected to support the theory that the integrity of the nervous system is affected by the disorder.—*B. Kendall* (Boston Psychopathic Hospital).

[See also abstracts 2101, 2104, 2115, 2116, 2178, 2260, 2266, 2274, 2304, 2309, 2322, 2347.]

## SOCIAL FUNCTIONS OF THE INDIVIDUAL

2250. **Bedford, S. W. S.** *How can children behave if parents misbehave?* *J. Crim. Law & Crimin.*, 1928, **18**, 568-573.—From a study of 184 families referred to the United Charities of Chicago the author concludes that poor parental example is an important causative factor in juvenile delinquency. Behavior problems of parents are grouped into general types of delinquency, each of which is briefly considered. In the group were found 30 juvenile delinquents, representing 23 homes.—*H. J. Wilinsky* (Judge Baker Foundation).

2251. **Carlson, A. J.** *The physiologic life.* *Science*, 1928, **67**, 355-360.—Modern man differs from his primitive ancestors in cooking, preserving, denaturing and sterilizing his food; in living under climatic conditions which he has made more uniform; in being subject to industrial poisoning; in his use of stimulants; and in the maladjustment of his sex life. We know the favorable or unfavorable influence of some of these factors upon the physiological processes of the individual, but we are in the main ignorant of their effect upon the germ plasm.—*G. J. Rich* (Institute for Juvenile Research).

2252. **Condon, E. U.** *Statistics of vocabulary.* *Science*, 1928, **67**, 300.—Analysis of the word lists of Ayres and Dewey indicates a functional relationship

between the position of a word in the list and the frequency of its occurrence. The  $n$ th word in the list occurs with a frequency given by the formula:

$$f(n) = k/n$$

where  $k$  is a constant. This law is perhaps a quantitative appearance in language of the Weber-Fechner law of psychology, a quantitative law of diminishing utility in vocabulary.—*G. J. Rich* (Institute for Juvenile Research).

2253. **Cons, G. Racial superiority.** London: Book Centre, 1927. Pp. 12. 3 d.—The white man commonly takes his superiority over the colored races for granted, but his views may be fallacious deductions from differences which, if they exist at all, may be due directly to special environment. The author rapidly surveys recent work on sensory acuity, brain size, intelligence tests, cultural standards and moral and emotional differences. He points out that in each of these fields actually demonstrated differences between white and colored races are practically negligible. He concludes that the unity which is indicated by scientific investigation receives its final sanction in religion.—*F. C. Bartlett* (Cambridge, England).

2254. **Cook, H. J. Further evidence concerning man's antiquity at Fredrick, Oklahoma.** *Science*, 1928, 67, 371-373.—*G. J. Rich* (Institute for Juvenile Research).

2255. **Fairbairn, W. R. D. Religion and fantasy.** *Rep. Brit. Asso. Adv. Sci.*, 1927, 379.—A study of religious fantasies in the neurotic and insane provides evidence in favor of the psychoanalytic theories of religion. This does not involve the discrediting of religious values.—*H. Banister* (Cambridge, England).

2256. **Fleure, H. J. The characters of the human skin in their relation to questions of race and health.** Chadwick Trust: First Lecture in Memory of Sir Malcolm Morris, M.D. Oxford University Press. London: Humphrey Milford, 1927. Pp. 32. 2/6 net.—The differential evolution of hair and of other skin characters is a feature of the racial evolution of modern man. The most primitive type was the small-headed African pigmy, whose skin still retained much of its pre-natal downy hair. This race was driven southwards by a more modern long-headed type, with a hairless skin, darkened by the sun, of looser texture with large sweat-glands and much-developed dermal circulation, more fitted to withstand the heat. These types also appear among the people who drifted southeastwards to Malay and Australia. The peoples who, after the Ice Age, penetrated to northeast Asia and America, developed a much thicker, depigmented skin with a poor dermal circulation, as a protection against the cold. Among the people who passed to Europe the skin became adapted to a variable climate. It was depigmented and more delicate, hence necessitating a larger creation and emission of heat, and a consequent ability to perform more work. The skin characteristics are thus connected with adaptation to different climates, and also, probably, with resistance to disease; and they would repay further study.—*M. D. Vernon* (Cambridge, England).

2257. **Flower, J. C. The psychology of religion.** New York: Harcourt, Brace, 1927. Pp. xi + 248. \$3.50.—The book is based on the theory that the one basis of all religions is a frustration of hitherto adequate modes of response. Two chapters are given to an interpretation of material on the religion of the Winnebago Indians, as presented by P. Radin. The psychological mechanism controlling the birth and development of the religion is described as fantasy initiated by frustration. The religious element of the Winnebago peyote cult also falls under this characterization: there is in the peyote-eating experience frustration, imaginal reconstruction, and finally an acknowledgment that the strange features of the situation are beyond human control. The *Journal* of George Fox is drawn upon for an instructive instance of this same type of experience in a more complex civilization. Conversion experience is explained as

being due to a maturing of instincts and responses which are unexpected, of the development of which there is no understanding; frustration follows, and, if conditions are right, conversion. Psychopathology is conceived of as having little relation to religion, because it deals with fantasies which are never resolved; so the psychopath continually deals with a world which frustrates. Appendix I suggests that prehistoric art may be a frustration activity; Appendix II is a note on Rudolf Otto's idea of the holy; Appendix III is a note on responses to a questionnaire issued by the author.—*M. Goodrie* (Clark).

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2259. **Heilbron, A.** *The opposite sexes; a study of woman's natural and cultural history.* (Trans. by J. E. Pryce-Hughes.) London: Methuen, 1927. Pp. viii + 152.—The first chapter deals in a popular manner with the physical structure of the female. The author maintains that, physiologically speaking, the female can never reach the cultural heights attained by the male. The second chapter is called *The Soul of Women*, and purports to deal with psychological differences between the sexes. First, sensory differences are discussed, and it is thought that women are inferior in sight, hearing and smell, "and above all in the central organ, the brain." Woman is, however, essentially more emotional than man. This may be perhaps corrected in the future. Chapter III gives a sketch of the social development of woman from her place in the most primitive groups to that which she has reached in contemporary society.—*F. C. Bartlett* (Cambridge, England).

2260. **Herschmann, H.** *Der amtliche Entwurf eines deutschen Strafvollzugsgesetzes vom Jahr 1927.* (The official outline of a German penal law of the year 1927.) *Zsch. f. d. ges. Neur. u. Psychiat.*, 1927, 110, 511-518.—The mentally inferior liable to punishment, for whom the regular method of punishment is impossible, and those acquitted because of moral irresponsibility, should not be sent to custodial institutions and sanatoria, but to the psychiatric section of the house of correction established according to § 21, which the author would place under the professional physician. The assignment to this institution, according to the author, should be in the hands of an executive officer (not the judge). Two types of houses of correction would therefore be necessary, one for the normal, including those held as dangerous after the infliction of punishment, and the other for abnormal criminals.—*W. Wirth* (Leipzig).

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2262. **Juhász, A.** *Avilágirodalom élettörténete.* (The life history of world literature.) Budapest: Révay-Verlag, 1927. Pp. 467.—The book is not a history of literature in the customary sense of the term; the emphasis is upon the meaning which the historical development unfolds. From a purely psychological standpoint the investigation was undertaken to give a biology of world literature. For world literature is not a fortuitous succession of free-willed and disconnected names of authors and works; rather it is a living organism, a mind of higher order, behind and above the individual authors. And this universal mind has a psychology, like the individual man and his work of art; indeed, the latter are merely projections or manifestations of the universal mind. The individual authors and their works are brought into a meaningful interconnected whole within which the apparently fortuitous events are dissolved.—*P. Ranschburg* (Budapest).

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2263. **Knowles, D.** *The English mystics*. London: Burns Oates & Washbourne, 1927. Pp. 210. 6 s. net.—The author of this book deals first with the three main views as to the fundamental nature of mysticism, which he defines as: (1) psychological mysticism, a deeper realization of every aspect of the universe as apprehended by the mind, (2) theological mysticism, a particular way of receiving and interpreting religious truth, and (3) supernatural mysticism, an approach to God under His direct guidance, with a conviction of the possibility of the union of the soul with God during life. The author confines himself to a detailed treatment of this third aspect, as exemplified in the lives and writings of the English Catholic mystics who lived chiefly in the thirteenth and fourteenth centuries; of these Dame Julian of Norwich is the best-known. The sane and happy outlook of these men and women, characteristic of the fertile literary and artistic period at which they lived, is contrasted with the more somber mysticism which appeared in Spain later, at the counter-Reformation.—*M. D. Vernon* (Cambridge, England).

2264. **Malinowski, B.** *Myth in primitive psychology*. New York: Norton, 1926. Pp. ix + 94. \$1.00.—From an examination of a typical Melanesian culture the author sets forth his theory of the cultural function of the myth. The two current theories of myth—that it "is a rhapsodic rendering of natural phenomena," and that it is an "explanation, a sort of primitive science"—are criticized and rejected. There is a wide difference between the different types of story: the "tale" enters narrowly into the tribal life of the community, the "legend" comes closer, and the "myth" plays the most important function. Its function is "to strengthen tradition and endow it with a greater value and prestige by tracing it back to a higher, better, more supernatural reality of initial events." It is "constantly regenerated . . . it is a constant by-product of living faith . . . , sociological status . . . , and moral rule." Myth must be studied at first hand and in relation to ritual, sociology, and material culture to be interpreted correctly. The author emphasizes the fact that he is studying the savage myth rather than the myth of culture.—*M. Goodrie* (Clark).

2265. **Marrett, R. R.** *Man in the making*. London: Benn, 1927. Pp. 79.—After a general introduction dealing with the value of the study of anthropology to the ordinary person, Marrett develops the notion of the gradual evolution in all spheres of culture of human behavior and interests. This notion he applies successively, with much illustration, to magic, to religion, to marriage, to forms of government, to law in relation to social order, to means of intercourse between groups, to property, and to morality. The book is directed throughout to the general reader. A brief bibliographical note is appended.—*F. C. Bartlett* (Cambridge, England).

2266. **McAllister, A. H.** *Speech disabilities*. *Rep. Brit. Asso. Adv. Sci.*, 1927, 372.—Speech disabilities were found to be about twice as frequent among boys as among girls, and there was more disability at ages six to seven and eleven to twelve than at other ages. Records suggest that speech disability is as frequently the cause as the effect of mental disorder. Imitated defects, and those due to malformations or to delayed development, which rouse feelings of inferiority, are very important. Fear, anxiety and jealousy are very frequent causes of defect.—*H. Banister* (Cambridge, England).

2267. **Nelson, N. C.** *Pseudo-artifacts from the Pliocene of Nebraska*. *Science*, 1928, 67, 316-317.—The criteria of artificial treatment of bone specimens are shape, wear, polish, cutting marks, chopping marks, abrasions and perforations. The materials from the Snake Creek deposits fail to meet these criteria.—*G. J. Rich* (Institute for Juvenile Research).

2268. **Nelson, V. F.** *The code of the crook*. *Welfare Mag.*, 1928, 19, 343-347.—The underworld has a strict code of morals, the penalty for transgression of which is death. The group loyalty which it expresses could be turned into

socially useful channels, but in the average prison is merely concentrated against society.—*G. J. Rich* (Institute for Juvenile Research).

2269. **Porteus, S. D., & Babcock, M. E. Temperament and race.** Boston: Badger, 1926. Pp. xiv + 364. \$3.00.—“Race” is used in the popular sense as synonymous with nationality, and “temperament” is not defined, nor is the degree of its innateness determined. The study reported was made in Hawaii. Following a brief sketch of certain race studies, in which Woodworth’s well-known tests are located in the Chicago Exposition, a historical survey of the different races in Hawaii is made. The Japanese, Chinese, Hawaiians, Portuguese, Filipinos, and Porto Ricans are severally estimated as races by 25 judges on the basis of the Porteus Social Rating Scale. The characteristics considered are planning capacity, self-determination, prudence, resolution, self-control, stability of interests, dependability, and conciliatory attitude or tact. The Japanese come out far in the lead in planning capacity and the Chinese in dependability. The Filipinos and Porto Ricans are low throughout, but are relatively higher on tact than on the other qualities. The average ratings yield the following weighted efficiency indices: 85.5, 82.6, 51.4, 60.0, 33.0, and 33.3, in the order of the “races” given above. The population of each of these groups in 1920 is multiplied by the corresponding efficiency index to find the (hypothetical) population in Caucasian efficiency terms, the latter efficiency being assumed equal to 100. Thus the total population of 248,000 of the peoples listed, is reduced to 181,099. Comparative studies of social adjustment indicate a positive correlation between efficiency index of the several peoples and absence of crime, except that the Japanese have a higher percentage of murder and manslaughter than the Chinese and the Hawaiians. School advancement and intelligence also agree in general with efficiency index, but the Chinese again have the lead over the Japanese. Absolute brain capacity, as determined by X-ray photography methods worked out by Stevenson and Porteus, is held to show a high correlation with intelligence, both in the inter-group comparisons and also with the more desirable temperamental traits. For tests of intelligence and temperament the authors prefer the Porteus Maze. This test finds the Japanese superior to the Chinese for all ages above nine years, thus agreeing with the expectations based on brain capacity. Its independence of school training and of language, the authors hold, makes it eminently suited for application to different races in inter-group comparisons. Racial theories, racial futures, and education in relation to temperament are also considered. An annotated bibliography of twenty-six titles is added.—*J. Peterson* (Peabody).

2270. **Robinson, E. S., Sherman, I. C., Curry, L. E., & Jayne, H. H. F. The behavior of the museum visitor.** *Publ. Amer. Asso. Museums*, 1928 (New Series), No. 5. Pp. 72.—An application of the empirical procedures of experimental psychology was made to the behavior of the art museum visitor. About 60 adults selected at random were followed through each of three museums. One of these museums, a very large one, is situated in one of the largest cities of this country. The other two museums, both of medium size, are in midwestern cities of a few hundred thousand people. Marked differences were apparent between the behavior of visitors to the large museum and that of visitors to the smaller collections. In the former case there were several objective signs of greater hurry. “Museum fatigue” was shown to have objective existence in the behavior of actual visitors to museums and in the reactions of laboratory subjects. Some evidence was obtained that such factors as too much standing and walking on hard floors are not as important as the continuity with which the objects of art are observed. Museum studies were made of the effects of size, position, and context upon observation of the individual picture. These relatively extraneous factors were found to be large determiners of the amount of attention accorded a given picture. Laboratory studies showed that anything short of complete

isolation of the individual picture within the field of view has a decidedly distracting effect. A successful effort was made to increase the interest of visitors by providing plainly printed pamphlets containing brief comments on a short list of pictures. Visitors using these pamphlets showed no signs of museum fatigue. The final section of the monograph describes experiments made at Philadelphia in connection with the arrangement of the new Pennsylvania Museum. One of these experiments showed the advantage of placing furniture and paintings in the same room instead of segregating them as is the usual practice. Another experiment dealt with optimal methods of arranging sculpture, pottery, metal work, and textiles.—*E. S. Robinson* (Yale).

2271. **Seashore, C. E.** *The musical mind.* *Atl. Mo.*, 1928, 141, 358-367.—A popular psychological analysis and study of the musical mind and application to problems of musical training and appreciation.—*M. Meenes* (Lehigh).

2272. **Snoop, F. Z.** *From the monotremes to the Madonna: a study of the breast in culture and religion.* London: Bale, 1928. Pp. 143.—The title reveals the scope of this study in "mastology." There is an introductory chapter pointing out the importance with which the breast has been regarded in all ages. Because of its bearing on folk psychology, a mammary glossary is given. The breast is then studied from the zoological, anatomical, artistic, and religious points of view. The bibliography contains references, in addition to a few general and biological ones, to the Bible, Shakespeare, and *The Golden Bough*.—*M. Goodrie* (Clark).

2273. **Thurstone, L. L.** *The measurement of opinion.* *J. Abn. & Soc. Psychol.*, 1928, 22, 415-430.—The main principle in the measurement of opinion is the construction of a rational base line for describing the distribution of opinion, on which equal intervals shall represent equally often noticed shifts in opinion or equal appearing opinion differences. This principle of a rational scale enables one to compare several groups as to distribution, central tendency, and dispersion of opinion on any stated opinion variable, irrespective of the shape of that distribution or the amount and direction of bias in each of the groups.—*C. H. Johnson* (Boston Psychopathic Hospital).

2274. **Travaglini, —.** *Die Konstitutionsfrage bei der javanischen Rasse.* (The constitution problem in the Javanese race.) *Zsch. f. d. ges. Neur. u. Psychiat.*, 1927, 110, 437-492.—100 men and women, selected from the institution by the division physicians, were examined by the author (with reference to the racial form of individual parts of the body) and the Kretschmer types were found. 30% were mixed types. Among manic-depressives, relatively fewer pyknics were found than were reported by Kretschmer. The mind of the Javanese is still in a primitive, catathymic, animistic stage of thought on account of which mental diseases develop differently, e.g., the hallucinations in schizophrenia (reference to the special work of the author on the Javanese mind).—*W. Wirth* (Leipzig).

2275. **Vaught, E.** *The release and heightening of individual reactions in crowds.* *J. Abn. & Soc. Psychol.*, 1928, 22, 404-405.—An account of how the stimulations received from other people during a run on a bank impelled other depositors to shove forward *unthinkingly* to take money out of the bank also.—*C. H. Johnson* (Boston Psychopathic Hospital).

2276. **Weinberg, A.** *Value-interpretation: the methodological foundation of a psychological discipline.* *Int. J. Eth.*, 1927, 38, 44-56.—Psychology should boldly undertake the study of æsthetic values.—*M. Meenes* (Lehigh).

2277. **Weiss, A. P.** *Behaviorism and ethics.* *J. Abn. & Soc. Psychol.*, 1928, 22, 388-387.—The question is raised whether a mechanical basis for human behavior is adequate for an enduring program of social control. Four theories which indicate the direction of social evolution are given: pleasure-pain, minimum energy, stable equilibrium, variability. The variability theory seems to conform



best with the fundamental natural science principles. The statistical study of human behavior seems to indicate mechanism for both the individual and the group. Such conceptions as free will and personal responsibility will vanish with the introduction of scientific methods, although they may prove useful as pedagogical devices for those not scientifically trained. Our modern social condition is one in which the idealism of the past, based on sentiment and tradition, is gradually being replaced by an idealism based upon scientific methods. This requires an entire change in the personnel of those who have been formulating the stimuli which enter into the program of social control. This is a slow process. Behaviorism in ethics implies that only the best scientific methods should be used in formulating this program.—*C. H. Johnson* (Boston Psychopathic Hospital).

2278. **Wynn-Jones, L.** The appreciation of wit. *Rep. Brit. Asso. Adv. Sci.*, 1927, 373.—Two series, each of eighteen paragraphs, of various forms of wit were shown to children of both elementary and secondary schools, and to university graduates. It appears that locality plays an insignificant part in appreciation as compared with some general factor. If the point of a story is not manifest there is an active search for a clue. Such tests give an insight into a personality.—*H. Banister* (Cambridge, England).

2279. **Young, K.** The measurement of personal and social traits. *J. Abn. & Soc. Psychol.*, 1928, 22, 431-442.—In measuring personal and social traits, the author prefers at the outset to secure the life-history, using whatever documents, like diaries, letters and autobiographies, are obtainable; also to secure whatever data one can from interviews and mental analysis. Finally, tests of intelligence, of emotions, or moral knowledge, and of attitudes, and emotional history questionnaires should be given and analyzed. All this implies a contribution from the angle of sociology. The cultural patterns behind the behavior must be known. All that is available of the social contacts and relationships of the individual must be uncovered. These all play a part in giving a more complete picture of the dynamic person in his social environment than any single view can give. In short it may be said that until human ecology, using that term in a very broad sense, is allied with the historico-genetic and the anatomical statistical procedure, a full portrait of the living social being cannot be revealed.—*C. H. Johnson* (Boston Psychopathic Hospital).

[See also abstracts 2107, 2139, 2168, 2186, 2245, 2301, 2307, 2308.]

## INDUSTRIAL AND PERSONNEL PROBLEMS

2280. [Anon.] The selection of prohibition enforcement officers through formal tests. *Pub. Person. Stud.*, 1928, 6, 58-61.—Inefficiency in selection and harm to the testing movement seem to have resulted from the use of tests on which there had not been adequate preliminary study. A large proportion of non-administrative prohibition enforcement officers failed, although their superiors report them as satisfactory in their service. The difficulty with the program is attributed to hasty legislation which called for a large-scale testing program without provision for previous preparation, validation and standardization of examinations.—*K. M. Cowdery* (Stanford).

2281. **Bartlett, F. C.** Psychological qualities in leadership and management. Report of the 25th Lecture Conference for Works Directors, Managers, Foremen and Forewomen, Balliol College, Oxford, Sept., 1927. Pp. 21-25.—A leader must be suited to the group which he leads, since all leadership is of the nature of an interplay between leader and led. There are three principal types of leaders: (1) the institutional, conservative in outlook, maintaining his position in a settled group rather by virtue of his office than of his character, (2) the dominant leader, active, emotional, intuitive, coming to the fore among antago-

nistic groups, (3) the persuasive leader, clever, opportunistic, suggestible and quick to interpret the desires of those whom he leads. The two latter are to be found among the sectional leaders of industry. Management necessitates a type of man who must be interested in things rather than in people, must possess curiosity, constructiveness, imagination and a logical mind. There is at present no infallible method for picking out these types, though a study of the books which men read during their leisure hours might help towards it.—*M. D. Vernon* (Cambridge, England).

2282. **Bartlett, F. C.** *Psychology and the soldier*. London: Cambridge Univ. Press, 1927. Pp. viii + 224. 7/6 net.—The book contains three parts. The first deals with the selection and training of recruits in so far as these may be the concern of psychology. The topics here dealt with are: testing the special senses, testing intelligence, tests of special abilities, bodily skill and fatigue. The second part is concerned with social psychology, dealing with problems of the maintenance of discipline, the functions of leadership and the development of morale. The third part gives a brief account of some of the mental disorders of warfare and of their treatment in so far as a knowledge of these matters is necessary and helpful to the ordinary military officer.—*F. C. Bartlett* (Cambridge, England).

2283. **Bevin, E.** *American efficiency from the standpoint of British labor*. Report of the 25th Lecture Conference for Works Directors, Managers, Foremen and Forewomen, Balliol College, Oxford, Sept., 1927. Pp. 15-20.—The prosperity of America is largely due to a variety of fortuitous circumstances, rather than to a well-thought-out policy which should be copied in Britain. Chief of these are the immensity of her natural resources and the smallness of her national debt. The rise in real wages has been due also to the restriction of immigration, which has raised the market value of unskilled labor. The supply of this labor has, however, encouraged the wholesale introduction of mass production, which, with prohibition and the hire-purchase system, has brought about an immense increase in consumption. A greater degree of standardization might with advantage be introduced into Britain. Coöperation between capital and labor seems to be only a very partial success; but labor and management have far more in common, and may perhaps combine in future to hire capital, instead of being hired by it. Slavery to the speed of the machine, and the production of shoddy materials, both to be found in America, may be avoided rather than copied.—*M. D. Vernon* (Cambridge, England).

2284. **Cathcart, E. P., Bedale, E. M., Macleod, K., Weatherhead, E., & Overton, S. G.** *The physique of women in industry: a contribution towards the determination of the optimum load*. *Rep. Indus. Fatigue Res. Board*, No. 44. London: H. M. Stationery Office, 1927. Pp. 137. 5/- net.—The first part of this report gives detailed anthropometric data for 4,366 women, most of whom were in regular employment in industry at the time the measurements were made. The second part records numerous experiments and observations on the question of optimum load as determined by the metabolic cost of carriage. The most important factors are the disposition of the load and the method of carriage. Apparently about 50 lb. for well disposed loads and about 40 lb. for ill disposed loads is the maximum load which is physiologically economical for women engaged in continuous work. This conclusion is subject to a good many reservations, however. A special section reports the results of an enquiry into the actual lifting of loads by women and young persons in various selected heavy industries in England and Scotland. Particular attention was given to the incidence of accident or strain in these industries.—*F. C. Bartlett* (Cambridge, England).

2285. **Crossley, G.** *Methods of rate setting*. Report of the 25th Lecture Conference for Works Directors, Managers, Foremen and Forewomen, Balliol College, Oxford, Sept., 1927. Pp. 38-46.—A good method of rate setting must

be reliable as to results, and must have the confidence of workers and management. The empirical method is still employed to some extent, but it is successful only for standardized jobs and for cases where the workers have great confidence in the judgment of the management. Rate setting by time study should be preceded by an invitation to the workers to coöperate; and should be superintended throughout by a joint committee. A provisional standard rate must first be set by careful timing of the various operations, to be replaced by a final standard when the workers have attained their normal speed. It should not then be altered unless the process or machinery is changed in some way.—*M. D. Vernon* (Cambridge, England).

2286. **Crowden, G. P.** *The physiological cost of the muscular movements involved in barrow work.* *Rep. Indus. Fatigue Res. Board*, No. 50. London: H. M. Stationery Office, 1928. Pp. iv + 19. 1/- net.—This records the results of an investigation at a brick works where heavy barrow work is entailed. The physiological cost as estimated by oxygen consumption was measured. The relative cost of raising and lowering barrow handles, attaining speed and stopping, and maintaining speed varies with the distance covered and the speed, but most important of all is the maintenance of an uninterrupted run particularly for distances of 50 yards or less. The most important factors are: adequate control and balance with minimum tension of the arms, disposition of the load and of an optimum posture, employment of an optimum load suited to the worker, and adoption of the normal brisk walking pace of the individual worker in pushing the barrow. The optimum load is best arranged by reference to the measurement of the height of the worker's hands above the ground. Improvements in barrow design are suggested. Apparently the automatic alternation of stages in a normal work cycle provides the worker with almost all the advantages of rest pauses.—*F. C. Bartlett* (Cambridge, England).

2287. **Fisher, H. A. L.** *Education and industrial efficiency.* Report of the 25th Lecture Conference for Works Directors, Managers, Foremen and Forewomen, Balliol College, Oxford, Sept., 1927. York: Wm. Stevens, 1927. Pp. 5-8.—The industrial efficiency of a country depends very considerably upon the fertility of scientific invention carried on by its university-educated men and women. Of great importance to this efficiency is also the cultivation of the intelligence of those who now leave school at fourteen by further full-time or part-time education and by continuation classes. There should be the closest coöperation between business men and foremen, on the one hand, and the teachers, on the other, in choosing the most suitable applicant for each job. The aim of mental and spiritual self-improvement should be far more present, as it is in America.—*M. D. Vernon* (Cambridge, England).

2288. **Fraser, J. A.** *The value of stoppage analysis with special reference to weaving.* *Rep. Brit. Asso. Adv. Sci.*, 1927, 378.—An analysis of stoppages throws light on variations in efficiency throughout the day, efficiency of different methods of work, individual differences, etc.—*H. Banister* (Cambridge, England).

2289. **Hill, A. B.** *Artificial humidification in the cotton industry: its effects upon sickness rates of weaving operatives.* *Rep. Indus. Fatigue Res. Board*, No. 48. London: H. M. Stationery Office, 1927. Pp. 73. 2/6 net.—In the manufacture of cotton cloth a relatively high percentage of moisture in the air is essential for good weaving. Sometimes the amount of humidity is artificially increased, the mills in which this plan is adopted being known as "humid" or "wet" sheds. The operatives dislike artificial humidification and say that it is detrimental to health, even when it is produced only within the limits at present allowed by law. The investigation records the results of an examination of the sickness records of about twenty thousand weavers in various towns of Lancashire, these weavers being distributed suitably among "humid" and "non-humid" sheds. In no respect was any significant difference found in sickness records for

the selected year in humid as compared with non-humid sheds.—*F. C. Bartlett* (Cambridge, England)

2290. **Jones, J. H.** **How can one measure industrial efficiency?** Report of the 25th Lecture Conference for Works Directors, Managers, Foremen and Forewomen, Balliol College, Oxford, Sept., 1927. Pp. 9-15.—Efficiency is the duty of everyone to do the best that he can. Its ultimate test is to be found in the standard of living of the community, together with the provision made for the future in the form of capital investment. Its three important elements are: (1) that the product or service should be of the requisite quality, (2) that it should meet the public demand, (3) that effort must be economized to the greatest possible extent. Trustification does not necessarily bring efficiency. Monopolies may become anti-social, since their profits are often obtained by restrictive policies. In competitive industry, to be efficient and to make profits an enterprise must be well-balanced in all its departments. Its efficiency may be indicated by means of a good cost system, which gives a detailed historical survey of all the costs of the establishment from day to day.—*M. D. Vernon* (Cambridge, England).

2291. **McCredie, A. L.** **Market research.** Report of the 25th Lecture Conference for Works Directors, Managers, Foremen and Forewomen, Balliol College, Oxford, Sept., 1927. Pp. 42-46.—The number and heterogeneity of the markets of British industry necessitate the supply of accurate intelligence as to their nature to the managements. This is best carried out by professional experts in market research, who make a study of the character and potentialities of supply and demand, sales methods and advertising. Not enough is known as to the public demand, and conservatism and secrecy too often hinder the course of such research.—*M. D. Vernon* (Cambridge, England).

2292. **Miles, G. H.** **Time and motion study as employed by the industrial psychologist.** *Rep. Brit. Asso. Adv. Sci.*, 1927, 377.—The aim of the psychologist when making time or motion studies is outlined.—*H. Banister* (Cambridge, England).

2293. **Rowntree, B. S.** **The danger of organizing too mechanically and losing touch with the personal element.** Report of the 25th Lecture Conference for Works Directors, Managers, Foremen and Forewomen, Balliol College, Oxford, Sept., 1927. Pp. 46-50.—The popularity nowadays of rationalization, mass production and the division of labor brings about the danger of losing sight of the human element in industry. To guard against this, industry should be looked upon by all who take part in it as a national service. The management should take the workers into its confidence as to the problems of the business; and matters connected with the employment side should be settled mutually. Profit-sharing, insurance schemes, and welfare and social amenities are all of importance in maintaining human relationships.—*M. D. Vernon* (Cambridge, England).

2294. **Short, O. C., & Fahm, F., Jr.** **Suggested tests for rodmen.** *Pub. Person. Stud.*, 1928, 6, 67-71.—Tests are suggested though not yet standardized for selecting the rodman of a surveying party. Material in the series includes a test of memory for oral directions; short-answer items involving surveying terms, instruments and methods; ranking of procedures suggested for meeting practical problems; questions on the use of surveying equipment; a test of ability to follow written directions; and a relatively lightly weighted statement of education and experience. The elimination of all not passing a physical examination is recommended.—*K. M. Cowdery* (Stanford).

2295. **Vernon, H. M., Vernon, M. D., & Lorrain-Smith, I.** **A physiological investigation of the radiant heating in various buildings.** *Rep. Indus. Fatigue Res. Board*, No. 46. London: H. M. Stationery Office, 1928. Pp. iii + 56.—Part I deals with the measurement of radiant heat. For estimations of heat radiated by ceilings, walls and other surfaces a Moll thermopile connected with a



unipivot galvanometer was used. The thermopile was calibrated against the radiation of a lamp-blackened copper vessel 1 ft. square. This was filled with water at a temperature varying from 7° F. below that of the standard to 56° above it. Direct observations of the temperature of radiant surfaces were made by fixing thermometers to the surface by plasticene, and making a correction to the observed temperature on the basis of control observations. Low temperature radiant heat can be detected by the kata-thermometer. Part II describes the observed effects of radiant heating in various buildings. In offices and buildings heated by concealed panels in the ceilings and walls there is a remarkable uniformity in the distribution of the heat. Owing to radiation the walls, ceilings and floor are about 3° warmer than the air, while in rooms heated by hot water radiators the walls, etc., are about 3° colder than the air. Numerous observations showed that, with one exception, direct radiation did not produce any definite subjective effect with the panel heating system. The exception occurred when sitting 3 ft. from a wall panel 5 ft. in width. The radiation from gas fires and coal fires may be a thousand times more intense than that from panels. With such high temperature radiation rooms felt comfortably warm when 7° cooler than convection-heated rooms. In panel-heated rooms, however, the permissible reduction of air temperature was less than 1°. Under-floor heating is apt to be unpleasant to the feet. Equally even heating may be obtained by placing the source of heat near to the floor. Hot-water radiators cause an uneven distribution of heat, but are specially useful for checking down draughts.—*F. C. Bartlett* (Cambridge, England).

2296. **Vernon, H. M., Vernon, M. D., & Lorrain-Smith, I. (I). Vernon, H. M., & Vernon, M. D. (II).** Two studies on hours of work: I. Five-hour spells for women. II. The two-shift system in certain factories. *Rep. Indus. Fatigue Res. Board*, No. 47. London: H. M. Stationery Office, 1928. Pp. iii + 30. 1/3 net.—Part I shows that the adoption of a rest pause during spells of work of five hours' duration is desirable for both physiological and psychological reasons. In various occupations the introduction of a rest-pause was followed, both immediately and at longer intervals, by a rise of output and a reduction of labor turnover. A compulsory rest pause is disadvantageous in a small number of continuous occupations connected with the manufacture of chocolate and biscuits, because it involves a good deal more waste of time than that of the nominal rest pause. To avoid these difficulties temporary substitutes may be employed and different work groups can take their rest pauses successively. Part II records the results of a study of the two-shift system in eight factories. It appears probable that the effect of this system may be to increase the rate of work, but, owing to the shorter hours worked, to reduce the output over a working week slightly. Apparently absenteeism may be greater among shift-workers than among day workers. Neither system was shown to have any advantage over the other in respect of sickness. In one large factory labor turnover was slightly greater in departments always on shift-work than in departments on day-work, but in departments where there were changes from one system to the other the labor turnover was approximately twice as great.—*F. C. Bartlett* (Cambridge, England).

2297. **Warren, C. F.** The organization of a small business. Report of the 25th Lecture Conference for Works Directors, Managers, Foremen and Forewomen, Balliol College, Oxford, Sept., 1927. Pp. 25-38.—The personnel of the board of directors is described, together with the departments controlled by the active directors, and the committees organized for inter-departmental coördination. A detailed account is given of the sales organization, its work and the manner in which it is done; this includes the planning and supervising of the manufacturing, choice of personnel and welfare activities. Twelve fundamental principles for efficient organization are drawn up; they may be summarized in the word *service*.—*M. D. Vernon* (Cambridge, England).

2298. **Weber, W.** *Praktische Psychologie im Wirtschaftsleben.* (Practical psychology in industry.) Leipzig: Barth, 1927. Pp. 418. Paper, 15 M., cloth, 17 M.—The author proposes as a sub-title "A systematic and critical review of the entire field of the psycho-technology of business." Vocational, industrial and business psychology are dealt with in the volume. Only the literature in German has been considered in detail. Nine pages are given to an enumeration of the work in other countries. The data included are collected from other German writers. German psycho-technology has little to learn from America (p. 364). "These tests (*Proben*) have scarcely any psychology in them, they give rather the impression of improvised questions" (p. 365). The two major sections of the book discuss "psychology in the service of better production" and the psychology of selling. The latter, in about 25 pages, is chiefly a discussion of advertising. Approximately 312 pages are spent in discussing vocational and industrial psychological problems. The remainder of the book is philosophical, semi-historical and systematic. The section on vocational and work psychology covers in considerable detail the theories of selection and placement, with a wealth of illustrations and citations on the methods of testing for all forms of mental process. These psychological methods are directed to the examination of the capacities of the individual. The assumption that such examination of the individual will suffice to indicate the place he should take in occupations dominates in the procedures used or described by the author. Statistical proof is relatively unessential for this point of view. The book is important in bringing together in small compass much of the material and procedure of German applied psychologists. Mention is made of all the important studies of occupations and of separate industries made in Germany. It is still necessary to go to the originals for the detailed methods. Citations are all given as footnotes; there is no bibliography. The table of contents and index are unusually full, but there is no register of names.—*C. S. Yoakum* (Michigan).

2299. **Weston, H. C., & Taylor, A. K.** *The effect of different systems of lighting on output and accuracy in fine work (typesetting by hand).* *Joint Rep. Indus. Fatigue Res. Board and Illum. Res. Com.* London: H. M. Stationery Office, 1928. Pp. 9. 4d. net.—A considerable amount of general illumination in composing rooms is necessary to secure the best results, but the direct effect of different systems of artificial lighting is hard to investigate. General lighting alone may be satisfactory if the degree of illumination is sufficient. If it needs supplementation a semi-indirect method of lighting is on the whole preferable, since it tends to reduce glare, particularly in the case of new type. The problem of glare with new type is important, and it might be well to adopt some method of partially ageing the type before it is put into use. Where general lighting is unsuitable it is best to use a combination of general and local lighting in which the two kinds of source will give approximately the same illumination. Totally indirect lighting appears often to mean a loss of output. Purely local lighting, a method still commonly used in England, is of all systems the worst, especially if careful precautions are not taken to avoid glare.—*F. C. Bartlett* (Cambridge, England).

2300. **Wilcocks, R. W., Brümmer, F., & van Rensburg, J. A. J.** *Beroepstoetse vir Skrynwerkers en Loodgieters.* (Vocational tests for carpenters and plumbers.) *Annale van die Universiteit van Stellenbosch*, 1927. Pp. 39. 1/6.—This contains an attempt to apply statistical methods, such as chiefly developed and used by British and American writers, to the results obtained by an application of German and locally constructed psychotechnical tests. A "combination test" is described where cubical blocks with different kinds of joints had to be fitted together to form a cross. The criterion consisted of the ranking of pupils by instructors, according to predetermined principles, combined with exact measurements and judgments on a set piece of work. A psychological analy-

sis of the reasons why such ratings became more trustworthy the longer the apprentices had served under the instructor led to the decision that such a criterion could be relied upon only if the correlation between the rankings and the results was higher for more advanced groups of apprentices than for less advanced groups. It is also shown that if the correlation between the rank differences in the tests and the rank differences according to the criterion is high, neither ranking can diverge very far from the theoretical rank according to true inherent ability.—*H. F. Verwoerd* (Stellenbosch, South Africa).

[See also abstracts 2103, 2331.]

## CHILDHOOD AND ADOLESCENCE

2301. **Åstrand, S.** *Något om moralen vid ett studentkompani.* (On morale in a student company.) *Ark. f. psykol. o. ped.*, 1928, 7, 1-27.—While serving time in a "student company" under the system of compulsory military service in Sweden, the writer endeavored to study the morale of such a highly selected educational and social group. Of the possible methods considered, the only one which would seem to give reliable data was systematic observation in the form of a diary of daily occurrences. 58 actual situations are described in detail and are examined under topics like the following: effect of varying degrees of supervision, faithfulness in complying with orders, honesty in regard to personal belongings, sense of justice, self-regard and regard for others, sexual conditions, comradeship. The result of all the observations pointed to the general fact that conditions might be vastly improved in all respects. In the final section are discussed the various factors which might be responsible for the behavior of young men brought up in the most favorable educational and social environment until 21 years of age and then subjected to compulsory military training. Many concrete instances elucidate the bearing of strict objective discipline, the influence of the group upon the individual, etc., under such conditions.—*M. L. Reymert* (Wittenberg).

2302. **Boström, S.** *Lantbarnets själsliv.* (The mental life of the rural child.) *Ark. f. psykol. o. ped.*, 1928, 7, 90-101.—*Sammelreferat* of 12 German publications (1912-27) on the mental life of the rural child, under the following sub-titles: history, methods, home, rural children in relation to nature, the rural child and the school, the rural child and religion.—*M. L. Reymert* (Wittenberg).

2303. **Fox, E.** *The Child Guidance Council and the Commonwealth Fund.* *Ment. Welfare*, 1927, 79-80.—A brief account of the Child Guidance Council, and the development of child guidance clinics in England, which it is the aim of the Council to promote.—*E. Fox* (Central Association for Mental Welfare).

2304. **Gesell, A.** *Precocious puberty and mental maturation.* *27th Yrbk. Nat. Soc. Stud. Educ.*, Part I, 1928, 399-409.—Two clinical studies of puberty praecox are summarized. One girl, who matured at the age of 8-3, was somewhat accelerated in a number of physical traits, but slightly retarded mentally. The other girl (an imbecile) who matured at 3-7, is of especial interest because she had had a mental examination twice before the onset of puberty praecox as well as an examination nearly two years after the onset. Her development quotient was remarkably stable, giving values of 32, 34, and 35 on the three successive examinations.—*B. S. Burks* (Stanford).

2305. **Luria, A. R.** [Ed.]. *[Speech and intellect in the development of a child. Experimental investigations.]* Moscow, 1928. Pp. 259.—To follow most Russian physiologists fully, merely to analyze and to attempt to explain the most complex processes of human behavior by the mechanisms of simple reflexes, would mean, according to the editor, to ignore the dynamics of development in which qualitatively new forms are so manifest. Intellectual behavior is distinc-

tive and qualitatively new, and speech is the most exact indicator of its mechanism. As an approach to the study of the development of speech reactions, free association tests were given to groups of children of various ages, mentalities, and social status. Every experiment was divided into 4-5 sittings with intervals of 2-3 days between them; and at each sitting every subject was presented with 30-40 stimulus words, the same series being repeated after a rest pause of 3-5 minutes. The responses were classified according to speed, type, and contents or source. In this report the results of six different groups, comprising 128 children and about 40,000 reactions, are presented. (Unfortunately, there is some small discrepancy, as to the number of subjects and the results, between the reports of the individual investigators, the editor's critical review, and the abstract of the review.) The following are the results of the speed of reaction time:

No. of subjects; age, type of group.	TIME.			
	MEDIAN.		Q <sub>3</sub> - MEDIAN.	
	Initial series.	Repeated series.	Initial series.	Repeated series.
17 subjects; 5-7 years. . . . .	2.58"	2.35"	0.9"	0.7"
19 sub.; 8-10 yrs. . . . .	{ 2.7 (series not stated) }		0.9	
24 sub.; 9-11 yrs. . . . .	2.08	2.05	0.42	0.32
37 sub.; 12-16 yrs. . . . .	1.85		0.32	
19 sub.; 9-16 yrs. } IQ = 38-73. }	2.58	2.46	1.04	0.87
12 sub., 8 epileptics, 4 oligo- phrenics. . . . .	2.00	1.6	0.60	0.40

The reactions were further divided into seven types: I. Failure: no answer, "What?", "I don't know." II. Responses to other stimuli: objects in room, experimenter; perseverations, stereotypes, miscellaneous stimuli. III. Sound reactions: echolalia, rhythms, alliterations, etymological changes. IV. Predicative: verbs, attributes, supplements, etc. V. Habitual connections: verbal contiguity, synonyms and antonyms, contiguity in space. VI. Complex relations: causal, coördinates, supraordinates, subordinates, abstract. VII. Indirect and individual reactions. The following table gives the per cent of each reaction type in each of five groups:

Group.	No. Type.						
	I.	II.	III.	IV.	V.	VI.	VII.
5-7 yrs. . . . .	0.6	44.4	4.6	25.2	14.6	7.9	1.54
8-10 yrs. . . . .	2.5	27.5	12.5	24.5	17.5	6.0	4.5
9-11 yrs. . . . .	0.0	21.9	12.1	13.0	23.1	16.9	14.0
12-16 yrs. . . . .	1.6	5.8	1.7	51.7	28.0	7.2	1.1
Feeble-minded. . . . .	2.55	7.9	17.23	43.0	19.8	7.21	1.89

The experimenter with the 9-11 year olds used a somewhat different way of classifying, which, it is asserted, might account for the variance of his results. An attempt was also made to get a measure of what the investigators call the con-



tents of speech reactions. The stimulus words were divided into groups of origin: house, school, social, abstract, etc., and a correlation was worked out between the groups of the stimulus words and response words. It was found that this correlation correlates positively with intelligence. Thus, in one group, children with an average I.Q. of 100 had a correlation of .68, those with an I.Q. of 98 had .52, and those with 91 had .36. The exact correlations were not computed.—*H. S. Razran* (Columbia).

2306. **Siegvald, H.** *Undersökningar rörande det psykiska utvecklingsförloppet hos gossar och flickor under skolaldern.* (Investigations of the mental development of boys and girls of school age.) *Ark. f. psykol. o. ped.*, 1927, 6, 178-209; 1928, 7, 42-74.—These two articles are a continuation of the one reviewed last year (see I: 1833) concerning the writer's investigations on general intelligence with the Anderberg standardized tests for Swedish children. General conclusions are given as follows: (1) The Anderberg test-scale has proved itself adequate for the testing of general intelligence of girls from ages 7-11. (The test was originally devised and standardized for boys only.) (2) The general development of the intelligence of girls does not occur linearly in relation to chronological age; with increasing chronological ages the increments of intelligence diminish. (3) For all practical purposes, however, it might be said that the general development of intelligence in girls is approximately linear within very narrow limits, at the most two years. (4) In regard to the development of special mental functions as measured by the various separate tests of the scale, no approximate linearity in relation to chronological age is found, except in a few cases. (5) The variability of the ratings for general intelligence of girls seems not to increase with chronological age. (6) Since the development of intelligence in girls is not linear, it is possible to determine intelligence age for a certain age group of girls without correction. (7) The development of intelligence in boys and girls is approximately the same for the ages 7.5-12.5. (8) The girls are slightly superior at the following ages: 8.5, 11.5, 12.5; otherwise there is no quantitative difference between boys and girls in regard to the general development of intelligence. (9) Significant differences between boys and girls are, however, apparent in qualitative respects. (10) The variability in mental development seems to be approximately the same for both boys and girls. Tables, graphs and extensive footnote references.—*M. L. Reymert* (Wittenberg).

2307. **Slavens, G. S., & Brogan, A. P.** *Moral judgments of high-school students.* *Int. J. Eth.*, 1927, 33, 57-69.—In the ranking of moral traits in order of degree of badness it was found that the ratings of high-school students corresponded closely with those of college students. "The moral ideas and conduct of high-school students are very similar to the moral ideas and conduct of university students."—*M. Meenes* (Lehigh).

2308. **Stoke, S. M.** *Occupational groups and child development.* *Harvard Monog. Educ.*, 1927, No. 8. Pp. 92. \$1.00.—A group of 508 children ranging in age from 6 to 11 years, all of North European ancestry, were used as subjects in a study designed to ascertain the relationship between paternal occupation and developmental status of offspring as indicated by height, weight, an anatomic index derived from measurement of the carpal bones, and I.Q. earned on the Stanford-Binet and the Dearborn Series IA Group Intelligence Test. The classification according to paternal occupation was based upon the Taussig five-point scale. The product-moment correlations of the various items with occupational class were as follows: between occupational class and I.Q.,  $+.30 \pm .03$ ; between occupational class and height,  $+.15 \pm .03$ ; between occupational class and weight,  $+.15 \pm .03$ ; between occupational class and anatomic index,  $+.08 \pm .03$ . Slightly higher coefficients were obtained by the use of Yule's coefficient of contingency, which the author considers a better measure of the true relationship existing between the factors considered than the Pearson coefficient. Brief

case histories are given for 57 of the subjects. A bibliography of 48 titles is appended. There is no index.—*F. L. Goodenough* (Minnesota).

2309. **Stone, C. P., & Doe-Kulmann, L.** *Notes on the mental development of children exhibiting the somatic signs of puberty praecox.* 27th Yrbk. Nat. Soc. Stud. Educ., Part I, 1928, 389-395.—A summary is presented of literature on puberty praecox insofar as it contains reference to the mental development of the subjects. The authors deduce from the 62 available cases that the rate of mental development tends to be normal or sub-normal, and seldom accelerated, that norms for physical traits are often exceeded by children exhibiting puberty praecox; and that puberty praecox is an acquired disorder arising on a pathological functioning of the glands of internal secretion.—*B. S. Burks* (Stanford).

2310. **Tusquets, J.** *Realisme del infants.* (Realism in children.) *Criterion*, 1927, 3, 211-212.—*R. R. Willoughby* (Clark).

2311. **"Two Parents."** *The scientific interests of a boy in pre-school years.* *Forum Educ.*, 1928, 6, 17-37.—Quotes a series of spontaneous comments and questions by a boy, I.Q. 134, between ages 2 and 5 years. Analysis classifies them as predominantly dealing with inanimate natural objects, 42% being concerned with physics, astronomy and the weather. Apparent seeking for causes suggests a basis for early training in investigative methods and processes.—*K. M. Cowdery* (Stanford).

[See also abstracts 2235, 2250, 2339, 2341.]

## EDUCATIONAL PSYCHOLOGY

2312. **Alexander, C.** *Research in educational publicity.* *Teach. Coll. Rec.*, 1928, 479-487.—Under each of the topical headings of *Agents*, *Media*, and *Administrative Aspects* are summarized in turn the *Problems*, *Accomplishments*, and *Needed Research*. A bibliography of 28 titles is given.—*H. H. Remmers* (Purdue).

2313. **Bell, J. C., & Suhrie, A. L. [Eds.].** *Contributions to education: Volume II* (New York Society for the Experimental Study of Education). *Yonkers-on-Hudson: World Book*, 1928. Pp. xi + 425. \$2.20.—Part I, edited by Bell, deals with experiments in the class room (26 in all, reported very briefly). The following should be mentioned: (7) Davidson, L. *A comparative study of the National and Haggerty tests by mental ages.* Results from tests given to 101 4A grade children show: (a) The National tests give a higher mental age than the Haggerty. (b) The National approach the normal mental age more closely. (c) The correlation between the two tests is .61. (8) Isaacs, R. *A comparison of National Intelligence Test results and the Stenquist Test results.* "Bright" and "slow" 5B classes (56 boys and 16 girls) were given the Stenquist test and the National Intelligence Tests, Test I. The results bear out Stenquist's conclusion that intelligence and general mechanical ability are largely independent of each other.  $r$  was .34 (rank method) and .25 (Pearson product-moment) for boys. (The girls' results were inadequate.) (9) McGrath, W. J. *The individual and the mass in group retests of intelligence.* Scores obtained on two administrations of the National Intelligence tests given 17 months apart to 4409 pupils in grades 4A to 7A give an  $r$  of .87, but analysis of movements between normal and dull normal groups (I.Q. of 90 dividing the groups) show a very general upward trend in I.Q., indicating the desirability of retesting and reclassifying at least every two years. (11) Turner, E. M. *Performance tests as measures of general intelligence.* The combined scores of four form board tests given to 115 8B boys give a correlation of .21 with the Trabue Language Completion Scale and one of .50 with the Stenquist Mechanical Assembly Test. "The present development of the non-verbal Performance Scale, it appears, does not permit

definite comparison of its results with those obtained from the language intelligence tests." (12) Abelson, H. H. *What hope for the low I.Q.?* Records of 152 boys, 11 to 16 years of age, who had had the Stanford-Binet test and the Stenquist Test were selected for study from the files of the Educational Clinic. They indicate that "an I.Q. of 70 does not seem to clearly differentiate between the fit and the unfit, but seems rather to differentiate not at all as far as mechanical aptitude is concerned."  $r$ 's ranged from .036 to .327 with different age groups. The size of  $r$  decreases with an increase in chronological age. A direct relationship between mental age and mechanical score seems to exist more in the cases where the I.Q. was over 100 than in those where it was less than 100. Differences between the average group and the inferior group were from one-fifth to one-tenth as marked in mechanical aptitude as they were in general intelligence. Part II, Problems in teacher training, reports the proceedings of the spring conference conducted by the normal school and teachers' college section of the New York Society, May 14 and 15, 1926.—*L. M. Harden* (Clark).

2314. **Chapman, H. B.** *Organized research in education*. Columbus: Ohio State Univ. Press, 1927. *Bur. Educ. Res. Monog.*, No. 7. Pp. x + 221. \$1.50.—The twenty chapters of this monograph present a variety of facts about the history, origin, administration, function, and organization of research agencies in the United States and a few foreign countries. The research agencies include those conducted in connection with city school systems, universities and colleges, state departments of education, etc. Chapter XIX possesses the most general interest, as it lists topically the typical research activities of the organizations considered.—*G. M. Ruch* (California).

2315. **Clem, O. M.** *A work book syllabus in principles of education*. Baltimore: Warwick & York, 1928. Pp. 170.—The function of education is, for the author, to secure adaptation, and an attempt is made to help the student to make adaptations to the following units of the course by presenting questions, principles, problems, etc., for discussion and study: individual differences, the physiological basis of learning, native equipment, aims of education, challenge of secondary education, development of American policies in education, secondary education in other countries, the secondary school pupil, adolescence, discipline or social control, extra-curricular activities, guidance, vocation and education, the curriculum, transfer of training, instruction, the teacher, the new education, modern educational concepts, leading educators. A bibliography follows each chapter, and a list of supplementary books and journals is given at the end.—*L. M. Harden* (Clark).

2316. **Eckhardt, C. C.** *Faculty self-survey and the improvement of college teaching*. *School & Soc.*, 1928, 27, 336-338.—A report of an experiment in progress at the University of Colorado.—*H. L. Koch* (Texas).

2317. **Griffith, C. R.** *Psychology and athletics: a general survey for athletes and coaches*. New York: Scribner's, 1928. Pp. xix + 291. \$2.00.—The author makes use of certain psychological facts as they present themselves in athletic competition. Basketball players who make good use of peripheral vision when dribbling down the floor sometimes pass to an opponent rather than to a team-mate. This mistake is made because, while the jerseys of one's own team appear quite different from the opponents' jerseys when using foveal vision, nevertheless, when peripheral vision is used both colors turn gray or pass out at about the same time. Pole vaulting standards may be closer together than usual and create the illusion that they are much higher than they really are. Certain illusions are due to muscular set. A baseball player after swinging three bats finds that one bat seems much lighter. Work, fatigue and the theories of play are also discussed.—*R. Stone* (Clark).

2318. **Hume, G.** *Disability in reading*. *Rep. Brit. Asso. Adv. Sci.*, 1927, 372.—Reading involves ability to perceive and synthesize impressions received

from the eye, the ear and the muscles and to apprehend the right relations between the various elements of the sentence. Investigation shows many causes of disability. The chief "intrinsic" causes are innate emotional instability and weak specific abilities, e.g., inability to discriminate forms, poor memory for symbols.—*H. Banister* (Cambridge, England).

2319. **Jones, E. S.** Predictions from high-school performances. *School & Soc.*, 1928, 27, 339-340.—The author attempts to determine by means of a simple correlation technique the value of the following measures for the prediction of college success as measured by college grades: (1) average grade for the four years of high-school work; (2) average grade for the fourth year of high-school work; (3) rank in high-school class; (4) grade made on the New York State Regents' Examination; and (5) score on an American Council Intelligence Test. It is concluded that the average grade for the fourth year of high-school work probably offers the best single basis for predicting the scholastic performance of a pupil in college, but that a combination of this measure and intelligence-test score is a slightly more effective index.—*H. L. Koch* (Texas).

2320. **Kennedy-Fraser, D.** The use of the elements of school instruction in psychological investigation. *Rep. Brit. Asso. Adv. Sci.*, 1927, 376.—A scheme is being devised for using the elements of number work and reading in psychological investigations and for diagnosing specific school disabilities. Unsuspected sources of difficulty in learning are indicated.—*H. Banister* (Cambridge, England).

2321. **Mosher, R. M.** Some results of teaching beginners by the look-and-say method. *J. Educ. Psychol.*, 1928, 19, 185-193.—The look-and-say method teaches the child who is beginning reading to react to a word or group of words as a unit. In this experiment no analytic methods at all were used. 26 pupils from Grade I were utilized in this study. The children began their reading by developing four sentence themes about school, home or other life experiences. From the very earliest the pupils were urged to carry their eyes across the page rapidly and sweep back quickly to the first word of the next sentence. Easy transition from pre-book work to the use of a book was made. The children developed the ability to recognize more than the average number of words. The brighter ones succeeded very well indeed, but the lowest group did little enough.—*A. M. Jordan* (North Carolina).

2322. **Newsome, —.** The Montessori method and the education of the high grade moron. *Ment. Welfare*, 1927, 95-98.—An account of the progress made at Besford Court Mental Welfare Hospital (Worcestershire) through the introduction of the Montessori system, illustrated by a graph comparing the mental ratios of 60 children at Besford, after the introduction of the system, with that of 93 children in London special schools in which the system is not used.—*F. C. Bartlett* (Cambridge, England).

2323. **Odell, C. W.** Predicting the scholastic success of college freshmen. *Univ. Ill., Bur. Educ. Res. Bull.*, 1927, No. 37. Pp. 54. \$0.25.—The author attacks this problem: How accurately can the marks of college freshmen in the various subjects be predicted when their ages, scores on an intelligence test and complete high school records are available? Grades were secured for approximately 2000 college freshmen, whose high school records and scores on the Otis Self-Administering Test had previously been obtained.  $r$ 's between the freshman grades and age, point score, I.Q., high school average and high school grades in individual subjects and groups of subjects are presented.  $r$ 's between high school and freshman marks are about the same as those found by other investigators (.40 to .50);  $r$ 's between test scores and college grades are lower than that found by others, probably because of the brevity of the scale used and the lack of training of the many testers. When multiple correlation was employed comparatively small increases were produced in the coefficients, only a few rising



above .60 when the best combinations of school marks and test scores were made. Predictions corresponding to the highest of the coefficients are still subject to errors at least three-fourths as large as those of pure guesses. However, high scores upon intelligence tests and possibly high high school grades are more reliable than low ones, and these may possess a fairly reliable predictive value. The general conclusion is that such data as here studied are better than no criterion at all.—*L. M. Harden* (Clark).

2324. **Ribsskog, B.** *Litt om korrelasjonen mellem elevenes prestasjoner i skr. norsk og skr. regning.* (The correlation between performance in Norwegian composition and written arithmetic at the graduation examination of the grade school.) *Ark. f. psykol. o. ped.*, 1928, 7, 39-42.—The graduation examination grades, for the two subjects mentioned in the title, of 1155 children at an average age of 14 from the schools of two different cities in Norway (Trondhjem and Skien) were correlated. Results: Trondhjem, for both boys and girls,  $r = .58 \pm .02$ ; Skien, boys,  $r = .57 \pm .03$ ; girls,  $r = .45 \pm .03$ . Other general conclusions: No essential difference in the arithmetic mean of grades for boys and girls in written arithmetic. In written Norwegian (composition and dictation) the girls quite noticeably excel the boys. In regard to both written arithmetic and written Norwegian the grades of the boys vary more than do those of the girls. No references.—*M. L. Reymert* (Wittenberg).

2325. **Saue, E. [Ed.].** *Einführung in die neuere Psychologie. Band III, Handbücher der neueren Erziehungswissenschaft.* (Introduction to the newer psychology. Vol. III of Handbooks of the newer educational science.) Osterwieck a. H.: Zickfeldt, 1928. Pp. vii + 426.—*L. M. Harden* (Clark).

2326. **Spence, R. B.** *Factors related to college achievement.* *Teach. Coll. Rec.*, 1928, 504-514.—The rationale of educational measurement and the variation entailed in college education as the result of such measurement is discussed. An experiment conducted with two sections of educational psychology sectioned on the basis of interest is reported, giving partial and multiple correlation data for six variables: final grade, initial test, final test, gain, time spent in studying, and Otis S-A Score. It is concluded that general ability as measured by the Otis test is most important in predicting final success; that time reported spent in study is not in this study an important factor; that initial ability as measured does not markedly condition final grade for students of equal mental ability, and that the part played by this initial ability is a function of the teaching emphasis. The factors available at the beginning of a semester (intelligence and initial test) give a multiple correlation with final achievement of .64 for one section and .43 for the other.—*H. H. Remmers* (Purdue).

2327. **Sperle, D. H.** *Some difficulties experienced by first-year students in teacher-training institutions.* *Teach. Coll. Rec.*, 1928, 29, 618-627.—This study reports (a) a list of difficulties of first-year students as seen by instructors, (b) a list as seen by the students themselves, and (c) an investigation of reading designed to answer the following questions: "(1) How rapidly do instructors expect students to read? (2) How rapidly do students think they can read? (3) What reading methods do students use? (4) What is the student's actual rate of reading? (5) What is the student's ability in comprehending what he reads?" Instructors varied from 8 to 60 pages per hour in their answer to question (1). Students ranged from 16 to 90 in their estimates. A time record of students showed their average reading speed to be about 30 pages per hour. A five minute reading test gave a range of 149 to 641 words per minute with a class median of 248. The eighth grade median was 240. A comprehension test—25 true-false items—gave a range of 2 to 14, median of 7. Whipple's High School and College Reading Test, Form A, gave a range of 3 to 17 and a median of 9.8 and 9.9 for two different years, the standard median being 10.5. On the basis of the various findings students were instructed in methods of work and in methods of improving silent reading.—*H. H. Remmers* (Purdue).

2328. **Sturtevant, S. M., & Hayes, H.** A partial bibliography for deans of women and girls, selected and briefly annotated. *Teach. Coll. Rec.*, 1928, 29, 628-647.—A list of 160 annotated titles.—H. H. Remmers (Purdue).

2329. **Symonds, P. M.** A studiousness questionnaire. *J. Educ. Psychol.*, 1928, 19, 152-167.—The method used in constructing the studiousness questionnaire is carefully described both as to methods of selecting the items and as to statistical treatment of the results. A copy of the most successful edition of the questionnaire is included. The questionnaire correlates negatively with the Terman Group Test of Mental Ability and .23 with teachers' ratings of studiousness. By means of its use the predictive correlation with school marks rises by .075. In one school the studiousness questionnaire correlated .37 with teachers' rankings of studiousness and .25 with average school marks. The studious boy does not like to day-dream, does not care to own a revolver, does not care to become an aviator, likes to study, thinks that rules should not be broken under any circumstances, thinks that a passing mark should be a requirement for eligibility on a varsity team, does not care to visit a mountain moonshine still, etc. He prefers to avoid danger and excitement. He likes sport but is more interested in perfecting his own skill and playing a good game than in beating the other fellow, etc.—A. M. Jordan (North Carolina).

2330. **Szondi, L.** A korrelációs számítások gyakorlati értékelése a gyógy-paedagógiában. (The practical evaluation of calculations of correlation in corrective pedagogy.) *Magyar Gyógypaedagógia*, 1927, 9-10. Pp. 11.—Before the calculations of correlation are made, the suitability of the test material, as well as of the test, should be carefully determined. Data from investigations upon groups with defective intelligence are rarely suitable for calculations of correlation, since they may involve skew or bimodal (and therefore abnormal) variation. The only tests suitable for calculations of correlation are those which, when the measurements are of homogeneous material, yield a Gaussian distribution, or at least a series of values which show a linear regression. Therefore in the preparation of new tests the following points should be regarded: (1) Structure and mensuration should be based upon the greatest possible extent of variation of the measurements in question. (2) The tests should serve for an exact determination of the variation of the trait according to age, ability and sex. (3) It is most desirable that tests be devised and used which permit expression of the measurement of the trait, not in the form of an arbitrary estimate or a rank, but in measurements of an absolute magnitude. If the structure of the test permits merely a placing of the variants according to their rank, then no variant must take part more than once. (4) In practical psychology, not only the coefficient of correlation but also the magnitude of the regression must be calculated, since only the latter is of practical importance. (5) The coefficient of correlation is a merely formal expression of the regular coincidences between the pairs of numbers of two series of data; therefore it is not serviceable for elucidation of the causal, functional or structural relations between two phenomena.—P. Ranschburg (Budapest).

2331. **Teeter, V. A.** A syllabus on vocational guidance. New York: Macmillan, 1928. Pp. xiii + 217. \$1.00.—Designed for use in high-school classes; planned for a full-time one-semester course, or part-time two-semester course. Part I contains five lessons on educational guidance and self-analysis (using questionnaire), and the essential considerations in choosing a vocation. Part 2 (nine lessons) offers a study of various occupations, and instructions for a term theme based on intensive study of one occupation; also a lesson on vocational ethics. Part 3 (six lessons) deals with obtaining and succeeding in a position, and with general social and economic organization as a background for the pupil's vocational thinking. The material consists principally of reading references and oral and written exercises; some lessons present also outlines of the topic being stud-

ied, subjects for debate or special report, lists of trade-journals, and other supplementary teaching material. The reading references are full and diversified, including books, magazine articles, monographs and bulletins, to meet the needs of schools having limited library facilities.—*F. A. Kingsbury* (Chicago).

2332. **Wheeler, E.** Backwardness in arithmetic. *Rep. Brit. Asso. Adv. Sci.*, 1927, 372.—Investigation shows that emotional factors seem to be the most potent in producing and maintaining a condition of backwardness.—*H. Banister* (Cambridge, England).

2333. **Woodring, M. N., & Flemming, C. W.** A survey of investigations of study. *Teach. Coll. Rec.*, 1928, 527-549.—This is a survey and summary of results on a number of fairly recent investigations of the factors in study efficiency. The section headings in this paper (Part II is to appear in April) indicate the content: The Questionnaire, The Interview, Pupils' Themes on Study, Analysis of Pupils' Schedules, Observation of Pupils, and Diagnosis of Individual Needs and Remedial Instruction by the Case Method. References are cited throughout.—*H. H. Remmers* (Purdue).

2334. **Woodring, M. N., & Flemming, C. W.** A survey of investigations on study. *Teach. Coll. Rec.*, 1928, 29, 605-617.—This paper is the fourth of a series dealing with directing study. It summarizes a number of fairly recent experimental attacks on the problem of the improvement of study habits in students ranging from sixth grade to college.—*H. H. Remmers* (Purdue).

[See also abstracts 2100, 2111, 2167, 2190, 2214, 2232, 2247, 2287, 2301, 2307, 2338, 2342, 2343, 2344, 2347, 2349.]

## BIOMETRY AND STATISTICS

2335. **English, H. B.** The meaning of prediction. *School & Soc.*, 1928, 27, 422-423.—The author takes the position that complicated statistical methods are ordinarily not needed for prediction. In the commoner situations all that is needed is a count of noses. Of course, the pitfalls arising from inadequate sampling and ignorance in regard to variability are recognized.—*H. L. Koch* (Texas).

2336. **Franzen, R.** A comment on partial correlation. *J. Educ. Psychol.*, 1928, 19, 194-197.—The author develops formulæ to express two relations not comprehended in the ordinary partial correlation technique. The first is written  $r_{(x,y)z}$  and expresses the relation of  $x$  (independent of  $y$ ) with  $z$ . The second equation is written  $r_{(x,w)(y,z)}$  which is the relation of  $x$  (independent of  $w$ ) with  $y$  (independent of  $z$ ).—*A. M. Jordan* (North Carolina).

2337. **Lehman, H. C., & Witty, P.** Statistics show— *J. Educ. Psychol.*, 1928, 19, 175-184.—Statistics are used very broadly in the serious treatment of educational problems. Masters' theses, doctors' dissertations, articles in scientific journals, all make use of statistical procedures. And yet there are widely discrepant results and sometimes learned men come to almost diametrically opposite conclusions. Several examples are cited of (1) diametrically opposite conclusions, (2) statistical nonsense, (3) other doubtful conclusions. Furthermore, statisticians disagree as to the meaning of the terms used. For example, some call a correlation of .60 "high," while others say such a correlation is "but 20% better than zero." Students should regard with the utmost criticism conclusions based on statistical studies. They emphasize very greatly the fact that rigorously accurate mathematical procedures prove nothing unless initial assumptions are valid.—*A. M. Jordan* (North Carolina).

[See also abstracts 2273, 2330.]

## MENTAL TESTS

2338. **Casey, M. L., Davidson, H. P., & Harter, D. I.** Three studies on the effect of training in similar and identical material upon Stanford-Binet test scores. *27th Yrbk. Nat. Soc. Stud. Educ.*, Part I, 1928, 431-439.—Three masters' theses written at Stanford, and not previously published, are summarized. The first study employed 13 "trained" first graders and 13 control first graders. The trained and control were each divided into subgroups of M.A. 5 to 6 years and M.A. 8 to 9 years. The experiment consisted of putting the trained children through 16 half-hour training periods (two a week) for eight weeks. The training material was similar to but not identical with the items of the Stanford-Binet test. Comparisons were made of M.A.'s and I.Q.'s of trained and control children, as measured (1) shortly before the experiment began; (2) immediately after the training period; (3) 6 weeks after the training period ended. The two subgroups of the trained group had gained respectively 8 months and 5 months of mental age in excess of the control subgroups at the time of the second test, but the differences were not statistically reliable. The third test showed still further increases in M.A., but as these were slight, and about equal for trained and control, the author attributes them to practice effect. She considers it significant, however, that no decline in M.A. takes place during the 6 weeks subsequent to training. In the second study, 26 pairs of third grade children matched for M.A. and I.Q. constituted a trained and a control group. The groups were tested before, immediately after, and 3 months after the training period, which consisted of half-hour lessons three times a week for 6 weeks on digits, naming words, and a practice battery of designs. The author concluded that "training in material similar to the Binet test material brings about gain in these particular tests immediately after the practice period." It is shown that the effects of training were still evident after the 3 months interval in the case of the digits and to a lesser degree in the case of the word-naming test, and that the training had no apparent effect on the I.Q. scores immediately after the training period. The third study employed 20 first and second grade children divided into trained and control subjects matched for I.Q. and C.A. All subjects were tested by the Stanford-Binet before and at the end of the experiment, which ran over a period of three weeks. Half the children (Group A) were asked to give *similarities* between 100 pairs of nouns on a test list devised by the author, and the "trained" in this group were then coached daily for 5 days on 20 words per day taken from a practice list. The same procedure was followed with the other half of the subjects (Group B), but here the testing and coaching were on giving *differences*. Marked gains of trained subjects over control subjects were found in giving similarities, and in I.Q., in Group A; but the trained had no advantage over the control in Group B.—*B. S. Burks* (Stanford).

2339. **Claremont, C. A.** *Intelligence and mental growth*. New York: Norton, 1928. Pp. 120. \$1.00.—In this discussion of the nature of intelligence, the author develops the following line of thought: The problem of defining intelligence is a problem of finding a definition marked by high descriptive value rather than by abstract preciseness, as is required in mathematics, where the things defined are created, as it were, by the definitions. The mathematics type of definition is fitted only for syllogistic chains of reasoning, and these are generally out of place in psychology. "A term like intelligence, although it may be defined, stands for the conception of a specific thing which must, therefore, above all, be *described*. But a term like 'intelligence quotient' must be *defined* and could hardly be satisfactorily described." What, then, should be described as intelligence? The answer is: that which makes possible the perception of causal relations. The capacity thus designated may not lend itself readily to measurement, but that is not a serious objection. The limitations of psychology should



be determined by what things can be accurately observed, not by what can be exactly measured and expressed in quantitative terms. It is not implied in this definition of intelligence that there has been no point to the philosophical contention that "cause" is something outside of human knowledge. All that we need to imply by the phrase "perception of causal relationships" is the realization of the inevitability or inexorability of relationships between the parts of different sequences. Thus defined, intelligence can be seen to be characteristic not only of man, but also of many lower animals as well. For example, a bird builds its nests for instinctive reasons, but adjusts to the details of nest construction because of perceptions of the relations of the materials being fashioned. Intelligent actions are to be distinguished from instinctive actions in that instinctive acts are performed because of attachment to the act itself as the end, whereas intelligent actions are those in which "the means are chosen by the performer after he recognizes their relation to the end." Differences in intelligence between different organisms can best be thought of as differences in the length of the steps they can take in coming to a realization of causal relations. "... just as men vary in the length (and speed) of their pace, so they may vary in the length (and speed) of this elementary 'thought-step' permitted to their minds. Some may 'see direct' . . . higher degrees or more remote types of inevitable interconnectedness between phenomena than is possible to others. Logic is a system composed of steps which are kept studiously within the range of all normal human intelligences."—*R. Leeper* (Clark).

2340. **Commins, W. D.** *A comparison of intelligence tests.* *School & Soc.*, 1928, 27, 298-300.—It is the author's thesis that, given tests which correlate equally well with a criterion, one cannot infer that they are equally suitable instruments for all purposes. The McCall Multi-Mental Test, for instance, differentiated more effectively the "A"- and "B"-student groups among 170 fifth-graders selected on the basis of teachers' ratings than did the National Intelligence Test. Certain sub-tests of the latter instrument indicated, furthermore, certain sex and group superiorities which the total score failed to show. The question is also raised whether a test such as the National Intelligence Test, composed of many types of task and reflecting the assumption that intelligence is the average of many abilities, is always preferable to a single test which correlates well with Spearman's "G."—*H. L. Koch* (Texas).

2341. **Goodenough, F. L.** *The Kuhlman-Binet Tests for children of pre-school age: a critical study and evaluation.* *Instit. Child Welfare Monog. Ser.*, 1928, No. 2. Pp. viii + 146.—The purposes of this study were (1) to secure further data on the reliability of the Binet tests for children of pre-school age, and (2) to make an experimental investigation into certain theoretical reasons for their unreliability: (a) the unreliability of the measuring instrument itself, (b) the actual fluctuations in the rate of mental growth, and (c) varying emotional factors involved in the test situation. The Kuhlman 1922 Revision was given to a total of 495 children aged from 18 to 54 months; 393 of these were re-tested after an interval of approximately 6 weeks. The main experimental group was composed of 300 children, 100 (50 boys and 50 girls) each from the 2, 3, and 4 year age groups. These were chosen from groups representing as nearly as possible the total child population of Minneapolis, the criterion being paternal occupation. Testing was done by two examiners, A and B. For the main experimental group each examiner gave both tests to a group of 25 out of each age group; A gave the first to a similar group, B the second; and B gave the first and A the second to a fourth similar group. Results show that on the retest the I.Q. ratings were in general distinctly higher than on the initial test; the mean algebraic differences for 2-year-olds was 3 points, for 3-year-olds 3.2 points, and for 4-year-olds 6.6 points. Children of professional classes tend to stand higher originally and to show more improvement than do children of laboring classes.

Comparison of results failed to reveal any significant differences which could be traced to the difference of examiners. Three different determinations of the reliability of the scale as a whole are: (1) the average absolute change in I.Q. from the first to the second test, disregarding signs, is 8.5 points; (2)  $r$  between I.Q. on first and second test is  $.82 \pm .015$ ;  $r$  between half scales (Spearman-Brown formula) is .87 for the first test and .905 for the second. An analysis of separate tests in the scale is also given with reference to the following points: (1) placement in year groups, (2) reliability, (3) internal consistency, and (4) motivating power. Results of a comparison of I.Q. changes for 28 children who had attended a nursery school for a year and 28 non-school children (the groups otherwise equated) do not warrant the assumption that environmental stimulation of the kind considered in this study has any appreciable effect upon the rate of mental growth, which undoubtedly is much greater in these early years than later. As to emotional factors,  $r$ 's between change in rating from first to second test and change in I.Q. rating average .355 for shyness, .356 for negativism, —.089 for distractibility, and .169 for general coöperativeness (traits judged by the examiners at each test period). 14 children who gained 25 or more points in I.Q. from first to second test include a large percentage of 4-year-olds, a slight excess of girls over boys, and are drawn almost entirely from the upper half of the occupational distribution. 15 cases dropping 12 points or more include an excess of 2-year-olds, almost 3 times as many boys as girls, and are drawn largely from the lower half of the occupational scale. Prediction from tests during these early years is as yet very risky, but the author sees no reason why more accurate scales cannot be devised by the correction, shifting, elimination, etc., of individual tests. Two comparable forms of a tentative revision and expansion of the scale used in this study are now being tried out.—*L. M. Harden* (Clark).

2342. **Hoefler, C., & Hardy, M. C.** The influence of improvement in physical condition on intelligence and educational achievement. *27th Yrbk. Nat. Soc. Stud. Educ.*, Part I, 1928, 371-387.—The authors studied 343 elementary school children from ages 8 to 11 in the 3rd and 4th grades of 12 schools. They were all American born whites and had I.Q.'s not less than 75. Criteria of physical status were used as follows: (1) general physical condition based on physician's judgment; (2) condition of tonsils; (3) three physical traits—grip, shoulder breadth and weight-height increase; (4) the habit of drinking coffee. The Stanford-Binet and Stanford Achievement Test were employed as measures of mental ability and school achievement. It was found that a group of 145 children whose health had been good both at the beginning and the end of the experimental period (2 years) showed an I.Q. increase of 4.8 points, or a rate of growth of 1.3 times the "expected" rate, while children whose health had been fair or poor both times had a mental growth of 1.11 times the expected rate. The difference in rates is 2.80 times its standard error. Children whose health became better or poorer during the 2 years gained in mental age at a slower relative rate than did those whose health had been good both times, but the differences are not statistically reliable. On the Stanford Achievement, the only subject showing a probable influence of improved or consistently good health was spelling dictation. There was no evidence that an improved tonsillar condition improved the I.Q., but the rate of growth in school achievement (reading, arithmetic and dictation) was somewhat higher for pupils whose tonsillar condition improved. No significant effects of improvement in weight or breadth of shoulders upon mental or educational growth were found, but pupils having accelerated growth of strength of right grip showed a significantly faster growth in achievement than the retarded in growth of right grip. Coffee drinking was found to be related negatively to initial status of I.Q., and also to rate of growth on mental and educational tests. However, it was not possible to determine how much "selection" might have influenced the latter result.—*B. S. Burks* (Stanford).

2343. **Hollingworth, L. S., & Cobb, M. V.** Children clustering at 165 I.Q. and children clustering at 145 I.Q. compared for three years in achievement. *27th Yrbk. Nat. Soc. Stud. Educ.*, Part II, 1928, 3-33.—The subjects of this investigation were 40 children averaging 8½ years when the experiment started, and divided into two I.Q. groups as indicated in the title. The authors believe that differences in home environment are largely ruled out, since the Whittier ratings of the homes of children in the two groups average about the same. However, it is conceded that the lack of discrimination on the Whittier ratings may be due to limitations of the Whittier scale, since both groups average near the maximum. For three years the pupils were given an enriched curriculum in special classes, a large battery of achievement tests being administered at intervals. After one year, A.Q.'s on the Stanford Achievement Test averaged 94.5 in the highest group and 99.5 in the lower. Other tests showed pronounced differences between the higher and lower groups. In general the tests of complex abilities showed greater differences between the two groups than did those of simple ones. It is pointed out in the conclusion that pupils at plus 8 P.E. (in intelligence) "outstrip those at plus 6 P.E., although special opportunity was equalized for these two groups."—*B. S. Burks* (Stanford).

2344. **Lewerenz, A. S.** I.Q. and ability in art. *School & Soc.*, 1928, 27, 489-490.—In support of his claim that artistic ability cannot be predicted from intelligence-test scores, the author mentions the fact that an art appreciation test designed by Christensen and Karowski yielded a correlation with intelligence of .299 for girls and .264 for boys, while scores on the Los Angeles Test in Fundamental Abilities of Visual Art correlated with intelligence-test scores only to the extent of .155. The correlations for the sub-tests of the latter ranged from .009 to .275.—*H. L. Koch* (Texas).

2345. **Matthew, J., & Luckey, B.** Notes on factors that may alter the intelligence quotient in successive examinations. *27th Yrbk. Nat. Soc. Stud. Educ.*, Part I, 1928, 411-419.—38 children whose I.Q.'s on the Stanford-Binet changed by as much as 5 points on retests were classified according to the probable causes of I.Q. shift. In all but seven cases there appeared to be some unusual factor in the child's make-up or in the conditions surrounding the test which conceivably could result in instability of intelligence quotient. Brief accounts of the 38 cases are given.—*B. S. Burks* (Stanford).

2346. **Oates, D. W.** A statistical and psychological investigation of intelligence tests. *Forum Educ.*, 1928, 6, 38-62.—Three group tests, the Chelsea, the Columbian, and the Crichton, were given to 270 secondary school boys, ages 11 to 18-5. From age norms and correlations between test scores the Chelsea is indicated as most appropriate for this age range. Investigation of speed as a factor confirms previous findings that the intelligent subject is also the faster worker. Correlation coefficients of the tests with teachers' estimates and school examinations show wide variations in the different school forms tested (from —.320 to .713). There is found evidence that much greater care is necessary in refining tests to be used for discriminating between the relative intelligence of boys of average ability than in devising tests for selection of the brightest boys. Multiple correlation and tetrad-difference investigations of the members of the test series indicate a general factor operative, also other factor or factors than the general one. Although specific factors are not clearly identifiable, evidence from their ability to distinguish age-group differences indicates the most efficient combination of types of test material. A new criterion, namely ability to discriminate the bright young from the dull old boys, selects the same six test-types as best: (1) number series, (2) absurdities, (3) best reason, (4) cipher, (5) analogies, (6) common sense.—*K. M. Cowdery* (Stanford).

2347. **Pintner, R.** A mental survey of the deaf. *J. Educ. Psychol.*, 1928, 19, 145-151.—Reports the results of testing 4432 deaf children with the Pintner

Non-Language and Educational Survey Tests. The children were fairly well distributed over the United States. The mental alertness of the deaf as measured on the Pintner Non-Language Tests was on the average about three years behind hearing children of the same age. The comparison was made between deaf children and unselected hearing children at the ages of 12, 13, 14, 15. In educational attainment the deaf made a much worse showing, for in this instance the average deaf child of from 12 to 15 achieves on this educational test about what the 8 or 9 year old hearing child achieves. The age of the onset of deafness makes a great deal of difference in scores on the educational test but very little difference on the Non-Language Test scores. In the first case, there seems to be an increasing advantage to the child in proportion as the onset of deafness is delayed. There seems to be little difference in educational achievement between the oral and the manual methods of instruction.—*A. M. Jordan* (North Carolina).

2348. **Powers, N. E.** *An application of the Marston Introversion-Extroversion Rating Scale.* *J. Educ. Psychol.*, 1928, 19, 168-174.—The application of the Marston Introversion-Extroversion Rating Scale to 89 mental defectives of a special class center for girls showed that this instrument was valuable for the purposes for which it was constructed. Five teachers, differing widely in their subjects of instruction, and the principal rated each girl. One rather interesting outcome was that a girl was rated an introvert in one class would be rated as an extrovert in another. Fine handwork and other work which required intense application tended to develop introversion. Cooking and dressmaking bring out extrovert qualities. The general percentages of introversion and extroversion are not much different from those found in Marston's study.—*A. M. Jordan* (North Carolina).

2349. **Wilson, G. M., & Hoke, K. J.** *How to measure.* (2d Ed.) New York: Macmillan, 1928. Pp. ix + 597. \$2.00.—This is a revised and enlarged edition of the volume published in 1920. Additions have been made especially in the fields of high school tests and intelligence tests. The material thus introduced has been selected in harmony with the general purpose of the book: "use by teachers for diagnostic purposes."—*L. M. Harden* (Clark).

[See also abstracts 2306, 2313, 2323, 2329, 2330.]



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